FLOATING SHELTER

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Abstract

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During the summer of 1976 in Amsterdam, it occurred to me that this city was extraordinary in yet another sense: ten thousand of its people live on the water there, on boats or in floating houses.

I soon realized that this was an unique form of highly responsive housing -- adaptive, "user-controlled", and very pleasing. Never could I sense any indifference of boat people towards their home. And it simply fascinated me. It also turned out that what I saw that and the following summer was becoming an endangered species.

For these reasons I decided to record and communicate this particular environment, to make it experiencable, in a translated way, as a package for those who have to rely on second-hand information.

Since I am convinced that the individual is the essence, here and elsewhere, I felt that the most adequate way to give a "sense of place" was to let real people introduce themselves and their work. That is the core of this piece.

To learn and to show what implications this kind of individual action has in a larger context, and especially in a country where officially planned and administered housing is predominant, I wrapped the core into more general information on houseboating in Amsterdam: history, politics, legal problems and physical aspects.

To add meaning on this level, by providing more references as a basis for comparison, I travelled to other urban areas "infected" by floating housing: Paris, London, Hamburg, and Vancouver, Seattle, Portland and San Francisco.

It became clear that housing in "floating one-family units" happens in four ways:

- as a second home -- vacation, summer or weekend dwelling -- in part-time use;
- as emergency or temporary housing, organized individually or officially;
- in officially and professionally organized and administered developments for those who like to live on the water, but with more conventional housing and life style;
- as more marginal "free" housing, a vehicle for a generally more non-conformist life style, self-built, self-organized, (mostly using minimal capital), and a symbol for isolation and independence from ordinary society in part or as a whole, with or without a strong community life.

I emphasize the last in this report, believing that it needs the most support. This is not possible without recognition of the others.

The objective is to give a rather personal message, a documentary identification and communication of characteristics, values and properties, as a not always non-contradictory way to help support the idea of individual emancipation and environmental control.

Thesis Supervisor:

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"I remember walking through a fairly new subsidized housing project in Holland one morning. The streets are empty. Behind the facades I see only women wandering around like fish in glass bowls without much to do. My presence with a camera is suspect. Who wants to see all this? Suddenly the streets are full of small children returning from school. A routine re-asserts itself. Some husbands will be home for lunch. Someone has told me that suicide rates among women are highest in neighborhoods like this.

Observation is the only source for architects. What is it that those monuments in the magazines and text books are standing in? What are we doing in libraries and classrooms anyway? Did you see something out there lately?"

(N. John Habraken)
floating: (adj.) 1. that floats 2. Not fixed or permanent in residence, occupation, form, use, etc.; as the "floating" population 3. (Mach.) Connected or constructed so as to operate smoothly, as if floating; as a "floating" axle 4. (Med.) Out of the normal position, abnormally movable; especially subject to downward displacement; as a "floating" kidney.

[Webster's Collegiate Dictionary, Fifth edition, 1947.]

Prologue

The water surface is not our biotope--but we use it extensively. In our culture the transport of goods and people clearly dominates our waterways; housing on the water has a fairly insignificant history. The properties of water neither suggest it, nor is there any need for people to occupy the water surface stationarily and in large numbers (under "average" conditions).

In Holland skippers and then traders, tinkers, circus and fancy-fair people; in America's Northwest loggers, longshoremen, sawmill workers, fishermen, and later migrant miners and agricultural workers were the first floating dwellers.
In their tradition and during extreme housing shortages, other population groups used this housing form—working people in less transient or water-related professions; taking advantage of a form of housing which was capital- and mortgage-unintensive, through the involvement of one's own labor, and subject to low or no taxation at all, due either to the fact that the traditional water legislation provided no basis for it, or because the physical and other characteristics of a (squatter-like) houseboat(*) community prevented official control. Official threatening of floating settlements usually coincides with phases of economic recovery and of municipal government power. A "quiet stock" of unspectacular floating dwellings survived ups and downs in many places, relatively unrecognized and isolated, and owned by low to moderate income groups.

The increasing questioning of conformism and the re-animation of idiosyncrasy and individualism as desirable character attributes since the late Fifties has made houseboating also attractive to other people. The ideas of individualism, self-destiny, and self-reliance have joined with actual housing shortages to create pressure on the stock of floating housing. But when there was no extraordinarily high emergency situation anymore, houseboating started to lose official tolerance.

The insecurity of tenure and the threat of eviction has troubled neither the old-timers nor the less-conforming newcomers such that they would give up their life-style without a fight. A "hard core" had been formed. It is important to notice, insecurity and restriction still kept the houseboat from being marketable to wealthier, more conventional people.

This barrier now seems in the process of dissolving, most clearly in the houseboat cities of the American West Coast. Where floating communities do not disappear, they are being forced into compromises that cause a social turn-over: houseboating is becoming more expensive, both as a result of regulations and the now increasing pressure from the more well-to-do that find houseboats "exciting" but are not interested in self-building and a low-consumption life style. Especially in the U.S., due to private ownership of the waterfront, houseboats have already widely lost their characteristic as a low-cost alternative and user-shaped housing environment.

The Netherlands, and particularly Amsterdam, were much more reluctant, both in legitimization and in enforcement of regulations. This reluctance and the public ownership of the waterfronts kept fees low and houseboating from being marketed to a "better" clientele. This may very well change by means of stricter codification and zoning. Today houseboat life in Amsterdam still provides almost 10,000 people with a low-cost and highly adaptive housing form. It is worthwhile, therefore, to look at it more closely.

 Asked for the incentives of houseboat life in Amsterdam, Marian van der Wals, an Amsterdam lawyer with a special interest in urban questions, uses the term "quantitative and qualitative" emergency situation to characterize the housing shortage in numerical terms as well as in the kinds of housing options offered.

(*) here: a small-scale floating structure for permanent residence.
The fact that there is a shortage in amount of inexpensive housing represents only one side. Besides being a low-expense alternative to the official housing market (due to the existence of "recyclable" shells), the involvement of one's own labor in design and construction, reduced installation hardware, and the traditionally low mooring fees (as opposed to the generally high land cost) houseboats offer appreciated qualities that might be expressed by such terms as marginality and symbolic isolation, ambiguity and bi-functionality, flexibility and variability, and the possibility for a very personal environment.*

A houseboat inquiry conducted in 1972 in Groningen, Friesland claimed 63 percent listed "free housing form" as a main reason for living on a boat, followed by "privacy/no problems with neighbors" listed by 16 percent. The same argument was used by most barge occupants in Amsterdam, according to a 1974 survey. [1,2] Bulgar Finn (page 112) says: "It's the real magic of Robinson Crusoe; he comes into a solitary situation with an enormous cultural package." This ambiguity of being isolated, and within the center of social and cultural activity, is a principle of housing in general, but only a minority is articulating it, and carrying to a physical extreme. Only a few are willing to pay for this "isolation" with other dependencies and hardships, such as the manual labor or the lack of tenure security involved—things perceived in many cases as even desired attributes or necessary requisites for this way of housing.

In many cases, this bi-functionality (especially when the mobility aspect is involved) might be less important in reality than conceptually. Mobility is for most houseboats an issue similar to the mobile homes in the U.S. For example, although most people do not actually move their trailers, they are conscious of living in a moveable dwelling.

The implicit flexibility and variability (defined as interior and exterior possibilities for change) of user-built dwellings, is known and widely used in the boats I have seen. The mere fact of living in a self-made environment is a constant invitation for change.

**Freedom, threat and compromise**
Besides "low expense," "freedom" is the main argument for houseboat life in The Netherlands. An attempt to identify some of the dimensions of this freedom follows. With a few exceptions, the North American urban houseboats presented in this report have to be excluded from this account, because, as we will see later, the combined pressures from public authorities,

*An example of personalization (although trivial) is that each houseboat is given its own name.
concerned wealthy citizens, and hungry developers have caused, and continue to cause, the limitation and reduction of the very "freedom" described below, by means of codification, introduction of and increases in rent, and subsequent "upgrading." It is not by pure chance, that boat dwellers in Amsterdam and Groningen primarily defend their form of housing as "free," while water dwellers in Seattle and Portland argue with "water love."

Another characteristic distinguishing European from North American houseboating is worth mentioning: the examples in Holland, France, and England show that most boats are moored in linear formation, along rivers and canals, thus stressing the single boat as an individual phenomenon; whereas, most urban houseboats on the North American continent are to be found, for administrative and financial reasons, in defined marina environments, creating the image of separate "villages" or "ghettos," and thus, a greater degree of social control. In my view "community life" is far more important in the U.S., which reduces what seems to be an ingredient of this "freedom": the possibility of individual isolation. The field for speculation on these differences is open.

After all, what is this freedom? This freedom is the freedom of relative isolation ("no neighbors," but in a context of accessible opportunities and stimulation), and the freedom of individual management and manipulation of the dwelling: selecting, buying, adapting, owning, maintaining, moving, selling--appreciated especially in a context of rented housing and planned public housing. Here freedom means only partial physical independence and/or separation. It stands also for the consciousness of having control over a range of housing factors typically out of the reach of the consumer of mass housing: initiative and decision making, financing, design, production, marketing, management, maintenance, change of the building or settlement. And there are actually people with little money that want to execute this very direct form of control.

"Being in" the dwelling is typically all the tenant does; he or she moves in and out, and is the one that has to adapt, not the dwelling. The surface of the shell gets "personalized," the man-environment continuum is a necessary illusion. The boats, like garden shacks in urban areas and squatter apartment buildings, represent the only housing form in the city offering inhabitants control over this range of housing factors.

However, mere control over the closest environment does not necessarily overcome undesired dependencies on the next level, the neighborhood/community. Officials, planners, neighbors, and many boat people themselves, perceive the floating dwellers as a separate group whose interests are only barely, if at all, integrated in neighborhood concerns. Officials in Amsterdam like to project (their own) biases into the neighborhood. In London the boat community is even more set apart, both in physical and legal terms. The canals in Amsterdam provide a much more solid basis for contact and friction than the more rural Thames sites, or the Seine in Paris, where heavy traffic, level changes, and the explicit embankment structure stand between boats and neighborhood. Even more important perhaps, the fact, that many boats in London moor on private
property, reinforces the existence of a separate domain. Finally, and to continue this speculation, the boat itself might symbolize the detachment from the environment.

In order to maintain/gain control on the community level, connections and ties to that level have to be gained and maintained, a step that might compromise some of the freedom generated by, or generating, inner-urban houseboat life. Better information of, and integration into the community might be the only way to achieve protection, especially where boat solidarity alone is not powerful enough to avoid the imposition of undesired decisions, such as eviction, mooring fee increase, and enforcement of new regulations. The dilemma becomes obvious: neighborhood integration is not the main aim of boat life. Unfortunately this defines and limits the realm of individual environmental control. More unfortunate, many of those people have to defend their small realms of freedom in a more and more planned and administered system.

Professional involvement can help overcome this problem by giving the houseboats an official label. A professional, especially high-standard solution in its non-spontaneity would not evoke official suspicion because it would achieve the image of extravagance rather than of an emergency solution, but only by sacrificing what is perceived by many water dwellers as the very advantages of living afloat.

The houseboat development in Sausalito and Seattle shows these mechanisms quite drastically—the implications of compromises in fact of an eviction threat. It seems to be worthwhile to elaborate on this issue a bit.

Eviction Threats and Conformization

The houseboats in this report have a least one thing in common: their history as unplanned solution to a housing problem. The person or group that decided to live afloat was identical with the person or the group that built and managed the dwelling or the group of dwellings.

Houseboats have traditionally provided low-income people (only originally those in water-related professions) with the opportunity for capital- and mortgage-unintensive and low-tax housing property. "In 1939 only 8.1 percent of the 946 houseboats in Seattle counted at that time were mortgaged compared to 51 percent of the single family houses, reflecting their unconventional nature. They did not fit into the American way of living on credit," reports Howard Droker in his account on Seattle and its houseboats, published in 1977. [4] No wonder, credit for squatters and working-class people is unusual. Today, banks still hesitate to lend money for floating developments: houseboats are considered as personal property rather than real estate. [5] Being both an unplanned and a self-constructed, low-cost housing form, houseboats never have had full official protection—either as private property or as expression of a life-style.

The threat of eviction and deportation is a traditional ingredient of life afloat. Urban houseboat communities are usually attacked in phases of economical consolidation. In Europe, when public housing is supposed to provide sufficient facilities, houseboats and other forms of self-organized housing the poor and transient are perceived as undesired manifestations of crisis. In the U.S., where the stabilization in the cities
after depressions and war opened the ground for more efficient and profitable land and waterfront use, houseboats and other squatter-like settlements are not seen as tolerable inner-city housing forms any more. This rule is being dissolved today through strict codification of the houseboats and socio-economic upgrading of the occupants --common conditions for houseboat acceptance today.

Those settlements that survived are being institutionalized and made both more attractive and acceptable for less marginal, poor, and/or non-conformist population groups through increasing codification and standardizations. This process of conformity through upgrading is being reinforced in the U.S. by profit-oriented developers and moorage owners. While in The Netherlands the waterways and moorages are publicly owned and therefore not subject to revenue generating private development (bound to constant price increase), the majority of the North American water settlements were founded either as profit sources or later transformed into such, or wiped out completely. Where houseboat organizations do fight extinction of their housing environments, they typically do it at the price of codification and transformation from a low-cost alternative to a profitable waterfront development for the well-to-do, who "like to be tickled" but do not want to risk too much -- as a Seattle houseboat architect/developer puts it. The bitter irony is that houseboat organizations as in Seattle, wind up defending the houseboat as a phenomenon per se, as an empty hull, for the price of changing its population and altering its life-style.

Stylish professional houseboat clusters, generalizing and neutral in detail and arrangement, substitute increasingly adapted floating communities--especially in the U.S. This is consistent with municipal policy. The officially adopted world perception is unable to cope with non-conformism and abnormalities. So far conflict with capital interests is a predominantly North American houseboat problem.

From Mary Douglas' comments [6], one can interpret the steps official planning authorities have undertaken so far as "confessional rites of purification." M. Douglas claims that "in any culture worthy of the name" we find five "provisions for dealing with ambiguous and anomalous events," and thus with "polluted behavior not in line with the official interpretation of righteousness." First, M. Douglas names "reduction" of the anomaly by settling for one or another interpretation (the label or "pigeon-hole"); second physical control; "third, a rule of avoiding anomalous things affirms and strengthens the definition to which they do not conform; fourth, the labeling of anomalous things as dangerous" (reference: Festinger's concept of cognitive dissonance); and fifth, ambiguity and anomaly can be used "for the same ends as they are used in poetry and mythology, to enrich meaning or to call attention to other levels of existence."

Indeed, houseboats are ambiguous things, and anomalous. If a rose is a rose is a rose is a rose, what is a houseboat? (in Adolf Loos' interpretation of Gertrude Stein's quote). Legislative and other authorities are usually not dealing with the ambiguous nature of this dwelling type. For instance, a typical official concern is "to make the housing code applicable." A characteristic of officially
approved houseboat communities is the immobilization of the individual boats. [7]
Second, houseboat communities always have "physically controlled." The histories of most houseboat settlements show destruction and eviction whenever feasible. Houseboats were more likely to be accepted when critical times asked for self-initiative in housing.

In the literal sense, the labelling of houseboats as dangerous is obvious; they present dangers such as drowning, pollution, and fire. [8] Sometimes they are held responsible for use as houses of prostitution or as hideouts for drug-dealers and other criminals. In Amsterdam (in extreme cases) houseboat occupants are labelled as notoriously dangerous and consequently see themselves perceived in that way. Standard references are made to innocent but commonly ill-famed groups— gypsies, circus people, etc. Houseboaters expressed the conviction that the mere ignorance of the inside of a houseboat seems to evoke immediate biases, aversion, and fear.* Very related, and typically expressed by strangers (tourists), are the feelings of attraction and fascination. In reference to M. Douglas' fifth point, the use of anomalous things in poetry and mythology to enrich meaning or to call attention to other levels of existence, I can only point at the undoubtedly symbolic role of the houseboat as not-normal thing, as in the Noah's ark mythos, in Dickens' work, Joyce Cary's The Horses Mouth, and in recent publications that exploit this fascination merely visually and second-hand artistically. [9]

Cost and benefit

The individual pays for his freedom, sometimes initially involuntarily with additional organizational efforts, increased manual labor, and other hardships inherent in the individual handling of matters usually executed and managed by professionals—trade-off of not only economic costs.

The costs to the public are the visual and physical obstruction of the water for recreational purposes and additional water pollution caused by insufficient sewage treatment. And, theoretically, there is the cost of unrealized productivity for the traditional housing market. The cost of underutilized existing stock is hardly applicable, since the existing stock often is already "overutilized." Unused boats and abandoned waterfronts themselves might represent an opportunity cost for the public.

Benefits for the individual are not only economic, but consist also of limited, but valuable self-determination and independence, and in many cases increased environmental awareness and satisfaction.

The public benefits in certain cases from houseboats providing "eyes on the street (water)" — a means of social control, as in low-populated city centers where the water surface is cheap enough for housing. In this context, the boats can serve as catalysts for consciousness-raising in respect to open water. "The water becomes an issue"; littering and pollution (as in the case of Seattle's Lake Union, where houseboaters are the strongest advocates of anti-pollution efforts) might be inhibited because the shape and condition

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*Kevin Lynch notes that houseboats connote floating populations and drifters.
of the edge is actually in someone's interest and responsibility (territory). The same is true for crime and accidents. It is obvious that residential boats, and floating housing in general, represent, within limits an opportunity for the redevelopment and reanimation of inner-urban waste water, such as docks, harbors, industrial canal and river edges.

The supply of the existing houseboats alleviates the general shortage of adequate housing. Furthermore, it provides an opportunity for instant housing, in the case of momentary under-population (needed manpower, etc.), or under-provision with housing facilities that appears momentarily, as caused by catastrophes as fire, storm, flooding, earthquakes, and man-made disasters.

Houseboats often help finance the maintenance of rivers and canals and the institutions in charge, for locks and other inland navigation hardware, through fees without creating costs.

Residential boats enable the preservation of pieces of industrial archeology, floating craft of historic interest.

And, again, in the case of most European boats, they serve as homemade monuments, reminders that there is still something like individual action and the possibility for a more self-reliant, low-cost, and less wasteful and resource-intensive housing form.
Without doubt, the idea of housing in individual floating units will remain; it is the self-built, understandized houseboats that face extinction. Increasingly, inner-urban floating housing structures are being considered:

-- The City of Vancouver, B.C., plans a floating community in False Creek for approximately 200 units.
-- A smaller community of prefabricated high-technology, low-energy units (the outside color is optional) is under construction in North Vancouver: hyperbolic paraboloids in case polyurethane.
-- Another floating subdivision, architect-designed, developed, planned and managed by one firm, in "built-form" style, resembling sterilized "grassroot" structures, is completed in Seattle's Lake Union at Mallard Cover.
-- In London, England, serious proposals advocate the reanimation of abandoned docks and other urban neglected water areas, with floating homes.
-- The British Waterways Board plans pilot projects of residential marinas on the outskirts of the city.
-- The number of houseboat-related publications increased significantly and only very recently. A growing number of academic projects asks for more sympathy towards floating developments.

A thesis of this report is that in all the euphoria and excitement about designing and planning "afloat," it would be a mistake to forget the power that originated it: individual action. Professionals, in my opinion, have the responsibility to preserve the individual freedom of those who want it, and especially the existing environments that foster such. Unfortunately, traditional professionals are unable to work for "non-action," and the prevention of traditional "progress" implementation.

Progress is a commonly abused codeword for deterministic and biased planning efforts. The occasional argument that houseboats are an expression for the progressive evolution of man's habitat [10,11] is as invalid an attempt to justify the professional deprivation of the right to non-profit individual and collective environmental decisions, as to use hygiene and safety arguments to fight non-conformism and refusal to consume. [12]
CONVERSION OF THAMES LIGHTER

Professional concepts
A. "tjalk" conversions by W.Kuyper and R.de Vries (NL, 1950's)
B. Thames lighter conversion by Clive Chambers (GB, 1970's)
C. "Dekshuit" conversion by de Vries (NL, 1950's)
    (courtesy of Scheepvaartmuseum Amsterdam)
D. Prefabricated units on steel bottoms by J.Loning (NL, 1950's)
E. Steel bottom houseboat by W.Kuyper (NL, 1950's)
F. Site plan and sample floor plan from "Mallard Cove", by
    "Shoreside Constructions" Seattle (USA, 1976)
G. Design sketches for a thesis at the Boston Architectural
    Center, by Dennis Beebe (USA, 1978)
H. Suggested project by Martin Hiley (GB, 1970's)
I. "Cocoon" polyurethane units, floor plan and site arrangement,
    by Frank Ogden, Vancouver (CDN, 1976)
K. Cooperative moorage project for 200 units, by City Planning
    Department, Vancouver (CDN, 1977?)
Practically no professional houseboat versions reflect the potentials and values of user-built floating housing. As is to be expected, professional solutions are as fixed as in land-based housing. An exception, only at the first glimpse, is Hertzberger's proposal for temporarily housing the "victims" of the "Nieuwmarkt" rehabilitation project. If Aldo van Eyck had not won the competition, maybe its inhabitants would live today somewhere in Amsterdam on semi-variable boat solutions, featuring the typical fixed parts and a limited number of pre-defined variation options, but rigid in clustering definition and restriction of expansion.

The justification for this fixation of dwelling layouts lies in the nature of professional action itself (under present circumstances only a few people can realistically be expected to build completely for themselves) and with the argument that it is necessary to prevent environmental damage. Unquestionably, there are home-made solutions to be found that are disastrous in the eye of the architect, the physiologist, and the psychologist alike. However, it cannot be legitimate not to leave open the option of making mistakes. It is indeed part of the professional responsibility to somehow prevent damage, even within the family sphere, but this is not to say that areas uncovered by this control have to be maintained, admitting the limits of professionalism.

What constitutes these limits in our case? If we considered to apply the object(s) of this study professionally, what would the main consideration be, even before specific guidelines or goals are set up? Certainly, and first of all, the context of the assumed project and its "user group."
The characteristics and interests of the projected user group might not match with those of the existing dwellers. In simpler terms, is there a market, especially if some of the characteristics will change in the professional plan? Generally, there is no reason to assume that the same people that live in boats today are interested in any professional version, just because it's floating.

It ought to be considered that some of the advantages of the existing and unplanned settlements are inexpensiveness, "freedom," mobility, ability to adapt one's own environment, and the sense of being able to control it (houses are big, expensive and frustrating to adapt), and that these advantages might be eliminated in a professional plan.

"Inexpensiveness" depends largely on the accessibility of cheap and adequate shells, the involvement of individual labor, and low mooring fees and rates (which is rarely guaranteed, especially if one supposes a larger rush onto the water, and in a country or community with no tradition and/or legal basis designed to maintain low rates).

Since houseboats are a marginal phenomenon based on individual action, it cannot easily be pushed to another, more general level, especially not into the traditional directions of generalities. It lies in the nature of most professional action to generalize. It generalizes the human physiology, ethnic/cultural/social characteristics, group sizes and relationships, personal desires and preferences. Basically, it is the generalization of personal characteristics of the client, the assumption of a smallest common denominator. Of course, mass housing usually does not look for the absolute smallest common denominator of all individual preferences, but rather of groups and types of clients: the rich, the poor, the singles, the large families, the elderly and so forth. In that sense, user-built housing, as the only design form that does not generalize except within each person's own framework of education, experience and other factors constituting his/her "value system," manifested in behavior, is conceptually opposite even to the flexible apartment in mass housing, where individual and spontaneous change and adaptation of the shell is totally or partially prohibited.

The question here is not whether everybody should go and build his/her own hut, or should even have the choice of doing so (which is as valid a question); rather it is whether existing areas of personal control should not be kept alive, especially since professionals and officials seemingly have such a hard time inducing them, despite all intentional statements of the last decades. Do the present conditions, however, seem to make the question of whether they can be kept alive more than a rhetorical one?

Individually-initiated floating housing in urban areas is a marginal phenomenon, made possible by specific geographical, economical, and political situations. Generally, low cost, individually-initiated housing, largely user-controlled, in urban areas, and in the "developed" nations, happens when the existing economic and power structure has deteriorated to a point whereby it is feasible and desired. "On the boats: it's possible" [13] (i) because it is marginal and (ii) because there is not use pressure on the water that would create a marketable value (low demand or plentiful water space). And finally, and to close the circle, where the use-pressure reaches a point at which the water surface would become marketable, self-built, low-income housing afloat stops existing—unless it is protected (i) by public
ownership of the water and (ii) a specific
traditional, legal and/or another situation
that prevents the fee raise. In Europe,
factory-made, higher-cost houseboats in urban
areas are rare, probably because the legal
(no security of tenure in connection with
restrictions against additional boats) and
physical situation is not attractive enough
for those who can afford "decent" apartments.
And these factory-made houseboats in most cases
serve the group that also wants "decent" apart-
ments.

Theoretically, this could change. The North
American examples show that legalization and
codification without rent and purchase price
control cause the immediate extinction of the
lower-income housing environments. Restriction
of the total unit number to a more or less
status quo level prevents the marketing of
prefabricated units. Nevertheless, the number
of the stylish, out-of-scale custom-designed
houseboats is growing. If in Amsterdam, for
instance, the impending national legislation,
with zoning and coding, comes, it may very
well be that the official side soon will face
the demand for further regulation, price-control,
and image codification. This would be grotesque.
These thoughts may help to understand the
traditional hesitation in the city toward
regulations and rigid enforcement of such, since
it would mean the severe interference with a
sensitive balance system, which once destroyed,
would create the need for further planning and
regulation.
Boat Cities
As far back as the beginning of this century the Dutch government felt a houseboat law was missing. One of its advisory committees, primarily concerned with beggary, vagrancy, and habitual drunkenness, conducted a survey in 1911 to research the "societal damage" connected with life on house wagons and boats.

It is unknown whether wagon and boat people were any worse off than the rest of the poor class at that time, or what distinguished them from each other. Known is that mobility was often an integral part of their existence: there were skippers, fair and circus people, traders, tinkers, scissor-sharpeners, and such. While the living carriages had been built seemingly for the purpose of mobile housing; the boat's original function was the transport -- of potatoes, coal, building materials and the like. Of course there have been other groups, from the beginning on, that succeeded in finding such a shell without being professionally involved with it.

Both wagon and boat dwellers were accused by that committee of offending the basic principles of four laws that were to insure the "moral, spiritual, and material welfare of the people": the housing law, the criminal law, the law against contagious diseases, and the compulsory education law. The commission was mostly concerned that those laws were either not
Mud hut, Dutch reality until ca. 1925; the Health Commission in the foreground.

What was labelled here as "miserable conditions," of course, reflected a standard that very often was not the user's standard. Many people were unable to perceive the government's actions as helpful or improving, since many had spent all their lives in basements or huts, recognizing their new homes first of all as a strange and more expensive environment.

It has to be understood that this time in the Netherlands included the rise of big industry (before 1900), the imperialistic era (until 1914), World War I, the crisis of 1920, an economic recovery period which followed, and the crisis of 1929—a time during which a whole class of workers, small peasants, unemployed or not, lived in the most miserable conditions. Usual dwellings were the infamous mud huts and shacks out in the country, and in the urban areas, tiny and humid basement spaces. The city of Amsterdam counted 5,000 basement apartments in 1873, housing some 20,000 people, in a city of 250,000. In 1899 about 60% of all apartments in the nation consisted of just one room, one kitchen with an alcove. Between 1904 and 1915 nearly 4,000 Amsterdam apartments were declared as uninhabitable. [15]

Housing production generally did not improve much during economic ups, it almost reacted counter-cyclically, due mainly to a lack of competition on the housing market (need was too high), and the necessity of long-term investments that never proved to have economic stability. In addition, the attitude in the working class was "unrevolutionary": the individual was made to feel guilt for her own situation and was grateful for the welfare gestures of the bourgeoisie. [16]

II.

As a consequence of that commission's recommendations, in 1918 the Dutch government passed the law for "living wagons and living ships." Both the 1911 survey and the subsequent law ought to be viewed as as an attempt to politically improve the social situation and to help solve the housing problem through restriction and standardization.
The law's standards turned out minimal: for instance, it required an interior space of 2.0x2.1x4.0 meters (4 cubic meters) per person, a standard that was fulfilled almost by all ships used at that time, the canal and river barges.

The law, still valid, defines living ships as ships that are primarily used as dwellings or designated as such. People who wish to occupy a boat legally, must have both a housing and a mooring license.

The license of using a living boat is given upon the fulfillment of those minimal technical and functional standards concerning size, hygiene, and safety—plus standards for the occupant himself: the applicant has to prove sufficient income sources; must not been convicted for begging, vagrancy, and the like, and show that his children of school age are actually being sent to school.

Having a living license does not mean one can legally drop anchor where he pleases; one is also requested to apply for a mooring license. In fact, the 1918 Federal law superseded all provincial, local, or waterway regulations applicable, with the exceptions of mooring licenses.

Nevertheless, theoretically, no community could restrict boats from entering its borders in those days. Boats not desired were nonetheless accepted and granted "officieus" licenses, of lower legal status than "officieel" licenses. The explanation for given for this system was to save boats from being pushed around from town to town, and to provide particular communities with a legal tool to collect fees from unwanted boats without giving them the security of tenure granted "officieel" boats.
Later on, additional regulations and restrictions added to the basic statutes that characterizes the Amsterdam situation. For instance, "official" boats pay "harbor" fees of one guilder per square meter per 3 months, free connection with public energy and water provision systems included "officious" ones pay 60 cents and have to pay extra for service installations. These boats recruit the "legal" moorings; the rest sit on "spreading places" with or without license.[17]

The legal situation varies over the country, but always roots back to 1918. Interesting to note that the part that applied to living wagons was adapted in 1968 with little controversy because the number of such wagons was insignificant.

III.

The Netherlands' close relationship to water is well-known—be it river, canals, or the sea. Waterways have been, and still are, an important and integral part in the nation's transportation network. A new housing development today has to devote a certain amount of area to open water. The "wet infrastructure" serves primarily the transportation of industrial goods and recreational traffic.

The boats, of course, always had to "house" the people that maneuvered them. Their design had to reflect the requirements of man's physical comfort for the sake of efficiency in the boat's task. As travel distance increased the boats featured more explicit housing spaces: a standard solution was two tiny bed spaces in the front for the skipper's helpers (typically his sons) and a more spacious accommodation in the back, under the steering house for the skipper himself. This arrangement is very common in boats of about 60-120 tons, be it in the Netherlands, France, Belgium, or England. These old-fashioned barge types have not been built for
several decades. Today, in higher appreciation of the value of manpower, the rather generous multi-story "houses" on top of the modern 2-300 ton canal freighters far exceed minimum space standards.

Over the centuries, the barges changed very little. Their appearance only varied according to local differences such as in canal widths and bridge heights, and whether the boat had to serve canals, rivers, or the coast. There were deeper types that sailed and more shallow ones that were to be towed, by horses or even by men. One major reason for the fact that boats were little used as housing shelters in earlier times is the material of the boat. The use of a boat exclusively for dwelling purposes is typically a "recycling" act; only used shells are potentially on the housing market. And boats that actually could not serve their original purpose anymore were hardly more than rotten wrecks.

Barges mostly used as housboat shells in Amsterdam [ ]
The turn of the century saw the abolition of the wooden barge and rise in use of steel which increased the lifetime of a boat considerably. In addition, increasing technological innovations created faster and faster obsolescence of earlier types. This mechanism is clearly reflected in the following figures:

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Living Boats</th>
</tr>
</thead>
<tbody>
<tr>
<td>1918</td>
<td>ca. 1400 living boats in NL</td>
</tr>
<tr>
<td>1947</td>
<td>ca. 2000</td>
</tr>
<tr>
<td>1960</td>
<td>7049</td>
</tr>
<tr>
<td>1966</td>
<td>9085</td>
</tr>
<tr>
<td>1970</td>
<td>9058 [3]</td>
</tr>
</tbody>
</table>

A national program for more efficient use of the transportation system for low-tonnage barges (under 150 tons) led to a heavy output of good, cheap steel shells, an opportunity for people that suffered under the general housing shortage.
in the country -- primarily a severe lack of inexpensive housing for individuals and small groups. Amsterdam announced a shortage of 27,000 apartments in 1974, a situation that led to a restrictive distribution system for inexpensive apartments, that bars, for instance, people under 25 and unmarried couples from these apartments, unless they have already lived together for more than a year.

Statistical calculations show that at least 62% of the Amsterdam households that require independent living places are one- and two-person households; yet, Amsterdam's housing construction policy is still based on an older structure plan and assumes a primary demand for four- and five-person apartments. In addition, destruction of old buildings reduces the number of existing small apartments more and more.

The comparison with the households occupying Amsterdam's living boats shows that, indeed, 61% of the "legal" and 66% of the "illegal" ones (that primarily live on converted old barges) are one- and two-person units. 47% of the legal and 64% of the "illegal" boat dwellers are younger than 34. The fact that boats are a low-cost solution, is reflected in the 50%-50% threshold at $600 gross income per month under the legal, and at $380 under the "illegal" boat households. (50% earn more, and 50% less.) [1]

48% of the legal, and 40% of the "illegal" claim that they were unable to find an adequate apartment. [3]

The fact that only 8% of the "legal" and 15% of the "illegal" boat owners claimed they lived on the water for financial reasons, and only 22% of the "legal" and 34% of the "illegal" cited its free and "cosy" qualities, suggests that many people see a houseboat as a solution for another emergency situation -- as an attempt to preserve individualism lost in most of today's housing.
The growing consciousness of living conditions stands in contradiction to most mass-housing solutions. Serious questioning of commonly accepted traditional ways of life and housing lost much of its exclusivity. Individualism is one highly accepted and status-forming style of life.

IV.

What characterizes the official attitude towards houseboats? What are the motives for the confusing legal and political situation?

First of all, the legal construction described earlier seems to be nothing more than a typical, grown, traditional legislative phenomenon, not unusual at all in its inconsistency, expressing the somewhat bureaucratic but cautious official attitude to regulations, often expressed by a fear to commit oneself to irreversible decisions.

Many boats are "there," pay fees, carry "licenses," but are nevertheless considered "illegal." Some local governments try to leave their options open, not so much because they fear to lose votes, but rather because the whole issue is still confused; striking arguments or convincingly adequate criteria are so far nonexistent.

The support in the city council comes from parts of the left wing; Amsterdam had its strongest boat increase during the radical days in the sixties, the days of the Provo movement. In 1977, 27 of the 45 councillors were socialist/communist. The boats' existence actually started to become threatened with the rush in the sixties. Before that, the majority consisted of floating Schreber-garden communities, formally not unlike floating mobile homes. This boat "bourgeoisie" had quietly grown, in a more or less safe legal situation. Today, two
types of boat dwellers are clearly distinguishable: those who felt no existential need to remain mobile and started to build high on shallow platforms or prefabricated concrete bases, cultivating little front years on their wooden piers -- and those who preferred large and deep barges, possibly with diesel engines, and moored right in the middle of the city.

Today, the "illegal" boats consist of over 65% former canal barges and 28% "boat-houses," and the "legal" ones of 81% of "boat-houses" and only 15% of former barges. [3] Two separate boat organizations existed until beginning of the seventies, when what more legal boat people feared happened: in response to an increase of those individualistic newcomers in their old shells) the mayor made an attempt to threaten the existence of the living boat as such. As a result, the formerly opponent organizations founded a united action committee that succeeded in building up a strong lobby in the city council. The administration saw itself forced to a deal. In 1973 it agreed to provide public services for all boats that entered the city limit at least 2 years before a certain key day. In a police regulations certain building standards were imposed plus an immigration stop for all additional boats. This was in 1973.

Since that time the "Ministry of Public Housing and Spatial Order" worked on a proposal for a new national law that was submitted to the Dutch provinces and the City of Amsterdam, for judgement. This proposal and the rather conservative reactions leaked out, and turned out to be unacceptable for the boat community. As a reaction, the unregistered national "Woonschepen Overleg" was founded, providing a basis for local actions and advice, and forming a new formulating organ for counterproposals. This organization has local sections and an independent
nationwide branch. Several issues of a newsletter have been published so far, concentrating exclusively on legal and political information and advice.

The new law in its present, preliminary version requires, for example, that
-- a destination plan in every community is to be worked out within one year, where moorings are defined. (A step that theoretically would criminalize all other boats in that community and is based on an older central-marina idea, proved to be unfeasible financially.)
-- houseboats do not move anymore. (The law would imply, that the right to moor on a certain place is lost if the boat leaves its space, for holiday, for instance.) [18]

The law also would create the legal basis for the stepwise extinction of boats that do not fulfill all requirements, including a legal mooring space. Noncomplying boats would have permission to stay for one-year during which period they have to "catch up." The renewal of that permission after this period is at the mercy of the community's administration. The new law also would legalize deportation by providing a legal tool for forced placements of boats on spots defined as houseboat moorings in the destination plan.

This new national regulation wants to end the tradition of local decisions and criteria that always were perforated by personal contact, historical peculiarities, etc. It gives the local government the renewal of a national legal framework—at least, that was the idea. What in fact happened, is the manifestation of an existing trend toward increasing restriction by a complex regulatory network. The living boat gets credit as a positive contribution to housing only in the general introduction of the law, which shows no sign of respecting it as a "viable housing form." [19]
We observe the self-steering force of a public/social housing provision system, based on the free-market concept, that needs the aid of planning devices to prevent harsh conflicts in the course of the crisis cycles. The longing for security is expressed in a system that attempts to provide for housing almost as a public service -- the association of self-help with crisis manifestation (by definition!) cannot match in the "official" brain.

Almost all boats discharge their sewage directly into the water, as does the major part of the city center. Every night, Amsterdam flushes the toilet and pumps fresh water through the canal system.

In a few years, however, the boat owners who want to maintain at least some mobility will have to find solutions a la London or Sausalito: the argument that they are the only polluters, will disappear with the completion of the city's sewer system. The idea of permanent hook-ups to the sewer system is presumably in line with the new law's philosophy of increased control.
"Lutheran Church in Amsterdam" motif from a larger gravure-series by Pierre Fouquet, 1760 (detail: commercial barges in the "Singel" canal)

"Lutheran Church in Amsterdam" motif from a small felt-pen series by Peter Droge, 1975 (detail: residential barges in the "Singel" canal)
Amsterdam Arrangements
THE SETTINGS, or how houseboats are incorporated into urban and rural environments, planned and unplanned, in and around Amsterdam. Amsterdam provides examples of nearly the whole range of basic existing clustering types.

Residential Boats Along Canals and Rivers in Amsterdam.

Generally all moorings in the city center are linear. Because houseboats in the center are considered "illegal,"* they are primarily of the mobile type, like converted barges, moored mostly in single rows, in multiple layers along the Amstel River.

*The statistics on page 34 show an affinity of "boat-houseboats" to less official sites.
The existing hierarchy of canal widths has little to do with the occupation pattern (i.e., whether occupied on one side or both sides). Generators are combinations of traffic load and status of the canal. Canals or canal sections with high socio-historical status (Heren-, Prinsen-, Keizersgracht) seem to say, "We don't like boats." Others of lower rank, like the semi-backside canal which is only 12 meters wide and too narrow and shallow for heavy traffic, or those in the old industrial areas (Bouwersgracht), traditionally the oldest moorings in the city center, are crowded with boats.

The river in its city-center part is roughly 80 meters wide. This allows for multiple rows, generally of the larger boats (the smaller ones prefer narrow and quiet canals, but only as a very rough rule) without interfering with the considerable amount of commercial and pleasure traffic. Points of friction on trafficked waterways are the rocking caused by high speed and/or high mass of boats, or the noise or visual intrusion by pleasure and tourist craft.
It would lead us too far astray to get involved in the variations of the canal system. But while certain features are provided primarily for the neighboring buildings, such as zones of different degrees of privacy on the street, like the walkway, the building access at a raised level, and finally the entrance itself, other features are used by the boats as well. We find the transformation and co-use of street space for other purposes. The row of parked cars bordering the canal, finds adaptation as the public-private intermediate area of access to the boat, always reinforced and sometimes substituted by the trees.

This important zone is claimed in different ways, but rarely completely for the private side. The public presence in the form of parking is very powerful, often reinforced by parking meters that prevent area-claiming by the boat residents' cars and guarantee an aggressive anonymity of the closest environment. The public is always present, but certain devices are used to signal the beginning of a private realm: bicycles and other vehicles are parked, more and less elaborate flower arrangements in pots and barrels, even chairs and sometimes other furniture, tools, materials, working tables, mailboxes and the access devices themselves -- wooden planks, bridges, etc.

Sometimes this claim is very subtle and hardly noticeable; at other times it is very strong and overtaking. This depends, on the one hand, on personal preferences and needs, and on the other, on the strength of the "counter-claim" -- the flow of traffic and pedestrians, distance and relation to the other side of the street, reaction from the other side, the police, etc. For example: a large mooring stretch in the north-eastern part of the city is bordered on the one side by a berm and tracks, with a dead-
end street in between. Practically the whole street is taken over by tools and materials. As one resident put it, "A boat is like a farmhouse; there is the building, but then there is also all the other space you need for storage and work, for plants, etc." As a consequence, these people oppose a plan to moore their boats perpendicular (instead of parallel) to the street, which, while economizing on mooring space, would reduce the amount of precious street space per boat.

Visible then, is a balancing act between personal needs and expectations, and reactions and impositions (assumed or real) from the anonymous or identifiably familiar environment.
A variation is the mooring system at the Prins-Hendrikkade near the main station. Boats gather around kays built out into the water. Originally a commercial mooring place, it is now mixed with residential boats. The character is still industrial; the site is physically separated from the urban surrounding by a wide highway, a level change and the basic kay structure. The kays serve as an access feature and storage area for vehicles and materials.
The Marina

Another, little sophisticated, but more "efficient" mooring pattern is this marina type used in Amsterdam and other cities and towns like Groningen, Hoogeveen, Maastricht, Meppel, Werkendam, Zwolle, that is referred to as "houseboat harbours" (woonschepenhavens)[1], i.e. boat concentrations, usually 2-3 kilometers outside the city, where often infrastructure is thin and transportation connections poor, Amsterdam's largest marina is well-connected and close to the city center.

The walkways are usually wooden, provided and maintained by the city. Groningen's low-income house-boat harbour features concrete walkways with integrated service arteries, protected and insulated.

This marina in Amsterdam is situated near the Olympic Stadium and accommodates almost 200 units. See sketches for details of features and structure of the access system.
This place was created in the 1950's, when a large amount of boats had to be moved from a former waiting area further north, because the place had to be filled up by land (land-winning project Vlothaven).

The heavy concentration of houseboats without sewer treatment devices leads to uncontrolled algae growth in the water and is a menace to hygiene.

Zone A, the walkway, is 1.10 meters wide, bordered by zone B, which varies between 10 centimeters and 2.50 meters in width, depending on what set-back is felt appropriate to avoid coming too close to the neighbor in the next row. There are no written regulations.

Mail is delivered to each boat. The garbage has to be carried to the front of the row. Water and energy is supplied to each unit.

Zone B is used for tools, materials, gas and water tanks, bicycles, beer cases, low symbolic fences, gardening supplies, garbage cans, toys, clotheslines, garden dwarfs, hoses, fire wood, rain-water barrels, wind-surfing boards, and children's carts.
Rural arrangements
This system is very common near Amsterdam, as well as in other parts of the Netherlands. Boats are moored along a canal or river stretch usually accompanied by a road, either a minor artery in the infrastructure, partially taken over to serve the boats, or actually constructed (often of dirt) to serve boats only. The land between the street and water is usually fenced in and used by the residents.
Sometimes these linear settlements stretch for miles, borne out of a curious marriage of a land access artery and a rural waterway, that serves as a building basis when land is too precious.
Near Abcoude, a small community northeast of Amsterdam, we find this peculiar system. A group of two dozen families leased mooring places from the community along the Winkel, a minor rural canal. Placing their floating, trailer-like objects along the canal edge they could fill up the water left and right of the boat with mud and gain land they did not have to pay for, winding up with 10x20m lots with houses of about 3 to 4 by 6 to 8 meters, some double-storeyed, for the almost nominal amount of the mooring fee.
Outside Amsterdam, near Schellingwoude, at the Oranje locks, we find this mooring place, originally for 60-80 commercial barges, primarily sand and gravel freighters.

Today, approximately one-third are residential boats, many of which are waiting to be let into the city. Occupants are provided with no services at all, using watertanks, generators, batteries, and gas bottles. The moorings are free of charge from the national water board (Rijkswaterstaat).

All residential boats are barges; most of them have not yet been converted like in the early days when the housing situation was much more desperate. Most people use only the former captain's space in the rear of the craft, leaving the cargo space untouched. To get to their boats, people climb over the front of their neighbors' boats, carefully avoiding the living accommodations in the rear.
Also near Schellingwoude, we find a different phenomenon: lonesome residential barges in the bay reachable from the shore only by row boat. These are highly temporary spots, used by visitors or people hoping for access to the city.

The "legal" and stationary version on the rural canal, the lonesome floating house, with garden and fence that can occasionally be found represents a much more adapted interpretation of a "free way of life."
The residential boats in and near Hamburg, West Germany, may serve as good examples for those floating houses that are—as a phenomenon—related to the garden huts: as some kind of emergency solution originally accepted, and now subject extinction.
Klaus von Staden, a naval engineer and one of the last boat residents (a few dozen in all), gives their story in brief:

Klaus: Well, there have been living boats already before the war: in 1943, however, quite a few have been brought over from Holland, many of them "confiscated: by the Wehrmacht, the German military, as a lot of people had to realize painfully later, in the Fifties, as Dutch people came to claim their boats back.

In 1950, as a student, I moved into a mass shelter, Hamburg had been bombed completely. It was too expensive. There were 4-500 house-boats in Hamburg at that time, and I found a boat was an ideal solution. I looked around, searched wharves and shipyards, finally found a Dutch houseboat with its typical stain glass windows. It had served the German Army as some kind of brothel.

In the following years we got kicked around, my wife and I, finally we managed to sneak behind this dike here, before it was closed. The Water Board had to accept it. Landscape commissions were formed, because of us; we had to sign a pile of contracts over the time.

In general, during Reconstruction in the Fifties, people more and more objected to the "Hongkongization" (a slogan also in use in Amsterdam today) of Hamburg. The first step was the eviction of "a-socials" through increases of mooring fees. Later a law followed that prohibited the re-selling of boats for housing purposes. That meant their slow death. (However, you still can use boats commercially, I remember my haircutter used to work on one.)

I don't know what distinguishes the German from the Dutch or British way of planning, we here don't seem to be able to tolerate things like house-boats.
Paris
While houseboats in Hamburg clearly have to be classified as highly endangered species, they find a considerably milder climate in Paris, France.

Xavier Esselinck, painter and professor of mathematics, founded the "association de defense de l'habitat fluviale" in 1975. The organization has 120 members today. It fights for service provision in return for the $60 per meter and year mooring fee that is collected tri-monthly by the nationwide, private Port Authority, owner of the Seine edges. It is for this reason that M. Esselinck would like to increase the number of boats as rapidly as possible: to strengthen the boat lobby. The only place where services are provided in Paris, is a private marina, not unlike a "site and services" trailer park, but much more expensive.

In a radius of 70 km are 250 floating dwellings—in the city's center about 70; there were just 20 only five years ago. Those cluster at and under the bridges, also taking advantage of an embankment access improvement plan being conducted right now. The boats are usually converted commercial river and canal craft, very often French, Belgian, and Dutch barges— as opposed to the "floating garden huts" that are left in Hamburg. A different situation, a different motivation results in a different form.

M. Esselinck's "Alma" sits on the Pont Sully-Morland, in the heart of the city. Asked for his arguments for "l'habitat fluviale," he replies: "Tresvariable; prix d'atelier, prix d'apartement."

M. Esselinck defines the Parisian houseboat population as consisting of very "old" residents, that have lived here since the early Twenties; increasing over the past five years: a number
of young people (15-25 years old) looking for alternative student housing, or forming groups who dropped school or ran away from home—starting "nostalgic" lives in wandering street circuses, mime and music groups, or even shipping coal and potatoes in that old-fashioned manner.

The "Titi Circus," as an instance, fused with a neighbored music group and now own two 125x15 ft. vessels, one hosting the 12 members, and the other being converted into a bad-weather performance space. In the winter they stay in Paris, while the summer is the time for canal tournees to Belgium and Holland. "Our biggest problem is the $300 per month and boat fee," says Elie "Titi" Schneider, the director.

For the rest, M. Esselinck describes the floating dwellers as "intellectuals, architects, artists, hippies, supporters of the 'nouvelle ecologie.'"

Esselinck's "Alma" is a very common canal barge, a "motor spits" (spits for pin-pointed), designed as a motor craft, 125-15 ft. long and wide, optimizing the use of lock sizes.

He claims that the ship is cheaper than a comparable house; however, he bought the boat for $8,000, and spent additional $20,000 on the restoration of the original art nouveau rosewood steering house and captain's space underneath, and the construction of a 75x15 ft. open living space (painted white), with glass panels as skylights, in the former cargo room.

The ship bottom needs maintenance every 7-10 years, which costs $2,000. On a trip, which he takes occasionally with wife and son, the engine needs 12 liters per hour or 100 liters per day.

"Such a boat needs two months of maintenance work per year and person," says Esselinck.
London
In Hamburg, it's a state authority; in Paris, a national board; in Amsterdam, the city; but London's river and canal edges are owned by a multiplicity of private landlords and public authorities.

The management and maintenance authority of the Grand Union Canal is the British Waterways Board (BWB); of the Thames, several institutions with executive rights, including the Thames Water Authority. The highest planning authority is the Greater London Council (GLC); next is the local Borough Council, whose approval is required for most developments. The Boroughs are considered a primary force in creating change.

With a few exceptions, there are no houseboats in the city core. Most moorings are spread west and east along the Thames, where nodes of life appear in London: out in the Towns.

A mooring license is required for the occupation of a mooring; the ownership pattern is an important element in the regulation policy.

An estimated 1,000 residential boats (3,000 people) are in the London area; some 20% of the country's total. The system of waterways (a product of the Industrial Revolution) as well as a considerable market of used canal, river, and coast craft support the idea of houseboating. (A survey shows that 66% of the used shells turned out to be older than 25 years, and 24% older than 50.)

The Residential Boat Owners Association (RBOA), which uses the motto: "I am a floating voter," was founded in 1963 as a Thames group that has since spread out over the country. The RBOA estimates a membership of 50% and sees its task as lobbying, organizing, and informing about politics, technology, and individual problems. Because of the diverse ownership situations, boat residents face a variety of different
Moorings are leased at about $80 per month for a medium sized boat only slightly under the price for a comparable flat. Indeed, in a survey, conducted in 1974, in Kingston-upon-Thames, people ranked the argument of "cheapness/lack of alternatives" further down on their list of reasons for living afloat than appeal of "river life" and "interest in boats." "Community spirit" was the primary argument for only 5% of those who returned the questionnaires.

The majority of boat owners are married couples without children. 62% are between 22 and 35 years of age. Students/unemployed/retired total only 6%.

Boat people work - in equal parts - in "artistic, social, managerial, engineer/technical, or "skilled trades" professions. [21]

The RBOA claims that "for houseboats the prevention of pollution in rivers and canals is not an unsurmountable problem. For refuse disposal each houseboat should have its own dustbin which would be emptied by the local council. For sewage disposal it depends whether it is toilet or sink/bath/shower waste. Toilets should be chemical closets which are emptied at proper disposal points. Holding tanks for toilets waste are unacceptable. Sink/bath/shower waste should be held in tanks and possibly treated prior to discharge." [21] To be added are organic disposal toilets: see "Technical Appendix", page 219. Unlike in Hamburg, Paris, or Amsterdam, direct discharge of crude waste from a sea-toilet is usually prohibited here.

The provision of services is dealt with differently from mooring to mooring. However, most boats have access to water and refuse collection is available. Roughly half of
them are provided with public electricity; the
others use generators or gas lighting. An
estimated quarter of the houseboats have
telephones.

Almost all boat people interviewed wished to
own their own moorings, considering that
the value of their homes largely depends on
the security of tenure.

Sometimes they do get a change for ownership,
like the group of Thistleworth Marina, in
London's Southwest. 25 boats moor here.
The people economically control their own
"turf," which was collectively acquired.
Today they are a limited company with share-
holders, a chairman, and a board of
directors. Five spots are for tenants,
providing some additional income for
improvements.
This model improves the "community factor" a lot, ending individual anonymity and providing a basis for political power. Security is improved, too: I had difficulties entering the community, not having applied for written permission days in advance ...

A number of professional application considerations is made taking into account some of the benefits that floating homes bring to the community, as cited by the RBOA:
Inhibition of vandalism, theft, littering, etc., support for the waterways executives
Provision of a free emergency service
Preservation of attractive craft of historic interest and thereby increasing the visual attractiveness of river and canals
Alleviation of the national housing shortage
Positive financial contributions to the maintenance of river and canals. [21]
Sketch of a planned pilot marina by the British Waterways Board: a mixture of residential and recreational marina, off the Grand Union Canal, northwest of London

--The Waterways Board itself plans to run a series of off-canal marinas or encourage private developments. This is consistent with its aim to reduce linear moorings, concerned primarily about tourist traffic.

--The "Urban Economic Development Group" proposed using residential boats for the revitalization and redevelopment of inner-city wastewaters as docks, harbors, etc. [22] Clive Chambers' related proposal works with river barges as shells for large apartments. [23]

--Architect M. Hiley submitted a solution for the country's many worked-out gravel pits as a low-cost scheme. He suggests 2-3 bedroom units of 500 square feet each, brought on road or waterway. The walkways contain services.

--M. Harper sees an opportunity for firms specializing in factory-built homes. He envisions "a system in the mobile home fashion, caravan like prefabs." "A budget-price per home, inclusive of services, transport to site, and purchase of first year's rent of the site would be $8,000." [21]

Clearly ambiguous perspectives. Justified is the fear that an increasingly structured legal framework will result in the commercial destruction of what houseboats in Europe largely are today: small realms of individual decisive freedom, providing flexibility par excellence, without professional technological sophistication. True participation with the "user" as only participant.
A little imagination on the part of the designer can produce schemes as attractive as this. On derelict land. At low cost.

CAN THE COUNTRY AFFORD IT TO IGNORE THE POTENTIALITIES OF RESIDENTIAL MARITIME?

M. Harper

CONVERSION OF THAMES LIGHTER

Martin Hiley

R.I.B.A.
England's Waterways

England's Waterways, and a quick sketch of its craft.

The waterways have been used for transportation since pre-historic times. The Fossdyke Canal, Linc, constructed originally by the Romans in 1121, is still in use.

Canal construction and lock/weir devices are used to become independent from tidal changes, shallow waters, and seasonal dryness, as well as to reduce travel distances, and to manage level changes. Canals in England were usually private enterprises (many nationalized in 1948), resulting in a variety of canal/lock sizes, and thereby boat dimensions, both increasing over the years. As an instance, the Birmingham standards admitted boats of 70x7 ft., while Yorkshire and the North East allowed for double width, but only between 58 and 62 ft. in length.

As a reference, at present the traffic load in British waterways is 30 million tons per year, compared with 235 in Germany, 240 in Holland, and 110 in France.
Probably the best-known canal craft is the "narrow boat" (see Emily Dawson's boat on page 164), created for locks of roughly 75x7 ft. As indicated above, its area reaches from Birmingham and the Black Country to Lancashire, the Severn, the Upper Thames and the East Midlands. With increasing travel distances and railroad competition they became family boats with living accommodations in the rear. Narrow-boat people remained almost an autonomous group until the '60's, with their own pubs, schools, shops, and welfare services--and even their own way of having their environment decorated, with decorative ropework and painting of flowers, castle pictures, and geometric designs.

Narrow boats often travelled in pairs side-by-side ("breasted up"), one pushing and the other being pushed (the "butty"), and originally drawn by horses or men, some until after the Second World War.

A barge is a canal or river boat over 11 feet wide. We find barges from 14x50 ft. (originally sailing or horse/man-drawn, but later powered and called "short boats") to much larger, modern types (other European countries aim at 1350 tons as a standard) in both canals and rivers. The Thames, for example, still hosts a variety of compartment vessels, including the Thames sailing barge and the Thames lighter (see Charlotte Darwin's boat on page 168). Both stem from wooden types and are not decked over. The lighter's original task was to take over freight in shallower water.

A variety of other craft, pleasure boats, torpedo boats, fishing boats (like Jenny Bell's boat on page 134), and Dutch barges are to be found converted to residential boats on the Thames, along with those expressly built as houseboats. [24]
Case Studies in the Houseboat Business

Portland, Oregon: Jantzen Beach on Hayden Island

Just north of Portland, intersected by Highway 5 (travelled by 100,000 cars a day) amidst the Columbia River, lies Hayden Island, Inc., a prime example of American developer skill. Hayden Island ("A Great Place to Live, Shop, and Play") was founded as a corporation in 1928, owning some 400 acres of the island. The Company managed an amusement park until 1970. Nostalgic fragments like an old-fashioned merry-go-round can be visited in the Jantzen Beach Shopping Center, a mall with 100 shops and a total volume of $37 million in 1972. What happened is simple: the island was being developed, officially since 1962.

Interestingly, the first milestone in the development from a suburban amusement park to a regional business center, a chaotic mini-city that houses 4,000 and employs 3,000 was a houseboat moorage, started in 1955—today one of 20 in the Portland area. The idea was simple and, de facto, a forerunner of the island's 330-units mobile home parks: site and services. The concept turned out to be perfect: The Company created a substantial population almost totally dependent on the services The Company has to offer. The Company features today or in the near future: 200 luxurious houseboats (almost 1/2 of all in the state), constantly being improved through periodic rent raises, "one of the Northwest's most beautiful mobile homes parks"; over 100 condominiums; a 144-unit luxury apartment complex ("of town house design, architecturally compatible with the condominiums and the general Northwest Look of the island"); a shopping mall; two motor inns, 300 rooms each; six gas stations from six major oil companies; a large supermarket; a bank; a laundry and dry cleaning establishment; several restaurants; a 40,000 foot warehouse-complex; an "office campus"
and other office buildings; a 100-acre industrial park and additional restaurant and retail outlets.

Gross business volume on the property has exceeded $50 million and is projected to be $80 million by 1980.

New moorings are being developed in small steps, especially for two-story units. The leases are expensive ($200/month) and are desirable primarily for middle-income groups. Professionals handle the design, contracting and construction, as well as marketing of the floating homes. Individually initiated change and action is unusual. [25]
Portland's City on the Columbia
A Great Place To Live, Shop, and Play
Interstate 5 at Jantzen Beach – 283-4111
Seattle, Washington

The Seattle historian Howard Droker has published a historical account on the houseboats there. When I met him end of December 1977, he just moved out of his houseboat on Lake Union. It was getting unreasonably expensive: "I don't have the time to change the boat myself, nor the expertise, nor the time to get expertise," Howard told me. Even "Mr. Houseboat," 74-year old Terry Pettus, the Grand Old Man of Seattle's Floating Home Association, on a houseboat since 1943, had to consider moving to solid ground for financial reasons. Most of the information here is abstracted from Howard's book, Seattle's Unsinkable Houseboats.

After the loggers, longshoremen, sawmillers, migrant workers, and illegal aliens, that formed the housboating population almost since the very beginning of Seattle's history, other working people have moved into the scene that directly reflected Seattle's development from a logging town to the industrial center it is today. Houseboats were used by IWW men as well as by bootleggers, as well as by members of the upper class for summer residences.
Booms in the number of year-round occupied houseboats were typical crisis phenomena, like other squatter settlements, and like them, houseboats were almost eliminated before World War II.

"With the return of prosperity and abundant jobs, the city and its upstanding citizens decided that the shack towns were unhealthy and illegal." Higher class neighborhoods had been fighting adjacent low-class houseboat communities before.

"... the coming of the Second World War coincided with the end of the golden age of houseboating in Seattle. Property owners became more concerned about collecting rents, and had better luck at it, as economic activity picked up around the country and in the city. Profit-taking was once again possible, especially as the housing market tightened up during the war. Secondly, city officials began paying more attention to floating homes, partly as an extension of the phase-out of shack towns and partly in response to the pressures from uplanders with real-estate interests."

Settlements like on the Duwamish and in Lake Washington disappeared, leaving the main settlements on Lake Union and Portage Bay. The only houseboat colonies which survived were those that did not hinder commercial waterways, and did not front on wealthy recreational and residential territory, and that had some respectable, and therefore, stabilizing occupants.

"Undeniably, houseboats were generally well below the standards Americans demanded of their housing. But the over-all standard of living had suffered terribly during the Great Depression. Furthermore, many of the people living on the water had never known better housing. Floating homes offered an adequate solution to their housing problem."

Years of constant attacks followed. During the years of legal uncertainty, houseboats remained
cheap, fees were legally limited to $10 per month. Therefore, the houseboat number shrank from 1,000 in 1948 to 458; property owners preferred to lease to the growing number of small pleasure craft.

"Houseboaters in the postwar years continued to be attracted by the lake's combination of economy, convenience, and pleasure, and the financial angle was obviously the most important consideration of the three in that period. Because the war had transformed the colony into a family community dominated by couples, with pockets of the down-and-out-old timers, most of the floating homes were in good repair. This was especially true of Portage Bay, near the University of Washington, where many veterans and their wives lived while attending school on the G-I bill." [25]
Years of struggle with the City Council and the City Planning Commission, and especially with "private interests (that) had most influence on public planners," began during which the Houseboat Association developed its strategy of "escape to the front." By offering practical support for all environmental regulations, it made itself to the strongest advocate of Lake Union as such, propagating the "concept of a diversified marine environment" and thereby cooperating intensely with council, commissions, and community groups.

Finally, "in keeping with the new look in floating homes, the City Council adopted the first comprehensive houseboat ordinance in the summer of 1968. Drafted by the Special Advisory Committee on Houseboats, the ordinance formalized the sewer regulations cooperatively arrived at by the City and the Association. In addition, the law placed houseboats under the city building code, requiring city building permits for new construction or major alterations. The ordinance reflected the houseboaters' new conception of themselves as an up-graded community.

"New standards were appropriate and necessary for survival, even though it meant hardship for a number of oldtimers who did not have the resources to make the required changes. The Association tried to ease the transition of those forced out, but not at the expense of the 'guiding principle of working for a better lake environment.'"

"It is not allowed to be poor anymore," says Jaap de Kabouter. "They prohibit you to be poor, even by choice," says Phil Frank.
What was unthinkable before, now had to come, in the wave of standardization—professionally prescribed individualism in the form of architectural "solutions." A series of such architects is busy in Seattle today, as well as in other cities in the West. Euphemistically called "architectural innovations" by Howard Droker, the first "prototypes for modern floating homes" popped up at Portage Bay in 1968.

"Grant Copeland designed and built the floating community in 1967 as a business investment and as an academic exercise he wrote his master's thesis for the University of Washington's School of Architecture and Urban Planning on the project. The underlying purposes of Copeland's plan were (1) to form a cooperatively owned sub-neighborhood that encouraged community interaction (sic!); and (2) to encourage maximum individual identity through individualized unconventional dwellings. The result was a new look in houseboats—architect-designed angular, asymmetrical, multi-leveled structures finished in naturally stained native wood and built on styrofoam-filled cement floats."

What was never an issue before, because it simply happened, as community interaction and personalization of the home, designers now feel they have to worry about -- for a class
excited about valued it helped to destroy.

"An angry letter published in the October 1975 'Newsletter' charged that the new style of architecture represented an 'alien aesthetic' to the low profile of the 'old and colorful houseboat colony' and this was 'undermining the sense of community.'" "What irony," the letter continued, "that the efforts to upgrade houseboats should be so successful that extensive two-story remodelling and building would be financed secure and that such remodelling would both increase the value of all houseboats and lower the quality of our environment. What hypocrisy that the community which protested a high-rise apartment because it would blanket views of the lake, have built houseboats which now obstruct the views of the lake. . . . A unique style of life is threatened by the 'build and run' exploiters and promises to become a high-priced, high-rise, densely-packed, middle-class ghetto."

The latest development is characterized by the Shoreline Management Act from 1971, that seemed to be necessary to "preserve the Lake Union environment beyond zoning regulations"; it freezes houseboats and makes further dock development only economical as a package of dock and new floating structures. The restrictions on new development provide dock owners with a monopoly, that creates further rise in rents.

There have been attempts to escape this new threat, involving, on the one hand, rulings from a Board of Arbitration ("Equity Ordinance"; see "Supplements...") on the basis of rent comparison on different docks. This rent control being, of course, only a delaying tactic as the general market rises. On the other hand is a trend towards cooperative moorages, the collective purchase of docks by 10 or 20 families (who of course now become the privileged). As an indication of the level of moorage fees: two of the first cases seeking protection from the new "Equity Ordinance" are houseboats on Portage Bay whose moorage was increased to $175/month and $465/month, in the beginning of 1978.

The "Mallard Cove" development, by "Shoreside Constructions" (images from "Professional Builder", 2/77)
With hard-to-match bayside views through a two-story solarium (photo above) and well-appointed interiors (photo above), it's no wonder that buyers have found the floating homes at Mallard Cove to their liking. The development is really a floating subdivision (plan right), with 20 units lined up along docks. Each homeowner gets a shoreside parking space. Though all buyers have planned to use the residences as primary homes, floor planning is casual and open. First- and second-story decks emphasize this, as does the mezzanine spot for boats.
Derry Sherensky

Derry (34), Ski (37), and Jill (9) Sherensky own a floating home on dock 2019, Fairview Avenue on Lake Union, one of some 15. This dock structure goes as far back as 1909, when the city sold underwater lots to help finance the Alaska-Yukon-Pacific Exposition. The only way to get some return for the shoreland owners (that practically were forced to buy in order to maintain access to the lake), was to develop houseboat moorages. Rent today is between $150 and $200 per month.

Derry: This used to be a slum, a change is going on in the last years, prices have quadrupled. Many dock owners are unscrupulous.

Most of the houses are open here, and people simply walk in and borrow stuff. You find that only in very small towns, maybe.

We used to be uplanders. I was born in Worcester, Mass. I study American history now. We were married when we were teenagers.

We had dreamed about living on a houseboat, living amidst water, since we came to Seattle.

In 1967 or 68 we had to move to Southern California, because Ski went to school there. We hated both, the Air Force and the place—the desert, plastic people, plastic grass.

One day I looked out of the window—I'm sure I was crying—and I said: 'Ski, when we go back to Seattle I want to be able to look out onto water all the time.' So, when we came back on vacation, we took a kayak up and down the channel, knocked on every door—it was the idea, we were so excited. We found this boat six months before we actually moved back. Houseboats here are being sold by the word of mouth, little notes in the grocery store, etc.

We have no experience in building, but here we got into it, we changed practically all the inside and are still doing it.
This is very much a do-it-yourself dock, the docks are very different, you see. 2025 is a party dock, it's nice but you wouldn't want to live there. 2017 is a conservative dock with big houses where people hide in. 2019 is known as an active, "root-conscious" dock. (Most of the docks have names, we actually never could decide on one.) Often the moorage owner lives on the dock as well, and some have a bad relationship to their tenants, like the guy on the other dock that built that huge ferrocement box in front of everybody's sun and view. He doesn't understand what houseboat life is all about.

Oh yes, some people who live down here don't want their employers to know where they live, they have false addresses or have to move to a better address for career reasons.

We plan to live here forever, at least until Jill is grown up. I cannot imagine living in a house that does not move; these houses are alive, they move in parts.

And there are the "stringer parties." The stringers rot, you know, the cedar holds longer underneath, so you have to change the stringers every ten or fifteen years or so. You call all your neighbors, get a keg of beer, a wrench, chainsaw, crow bar, sledge hammer, leg bolts, 16" drift pins. It's wonderful. You swing your house around and lift it with a kind of a water hose you place beneath the stringers and fill with water. Our floor was warped, now it is better, but the doors didn't close anymore.

The fun is to get all these "experts in your neighbors," everybody seems to be a specialist for something else, how to do this or how to do that.

We also had feminist stringer parties! [32]
Vancouver

Western Canada, the coast of British Columbia has a well-known and strong history of hundreds of floating villages, logging camps, erected stationarily on rafts. Some still function today.

"In Vancouver, according to a recently completed study by the Vancouver Planning Department [27], houseboats have been associated with negative experiences -- before WWII, they were floating slums and floating dens of iniquity. [28] But today the current redevelopment of the waterfront with the concentration of shipping facilities into more compact areas, has opened the way for other uses. The city study identified Coal Harbor, False Creek, and Deering Slough as appropriate places for floating home development. Today the Greater Vancouver area has 146 floating homes scattered in about ten different places, with the major concentrations at Richmond on the middle arm of the Fraser River and at Coal Harbor in the city near the Bayshore Inn (that wants to get rid of them to build some tennis courts). Coal Harbor contains 25 floating homes and six floating offices (a new double-story complex). There are more live-aboards (boats originally built for navigation purposes only) in the city than houseboats, 61 in all. The combined floating population of Vancouver is 163, of which 145 are adults. The water dwellers tend to be young, fairly affluent, highly educated, and childless couples..."

So writes Howard Droper in Seattle's "Newsletter," December '77. In my experience there is only a tiny little bit of "freedom" and control over one's own environment left in Vancouver, somewhere, occasionally between yachts and sailboats. For the rest, the trend goes really towards "professional solutions," and official "experiments." (See page 89.) Vancouver has the situation under control, or as D. Hickley, Vice-Chairman of the Vancouver Planning Department put it: "We are
much too sophisticated to a laissez-faire policy a la Amsterdam, or: "We have done an information trip to San Francisco: no way!" Due to the city's complex planning strategies ("Our planning technology is far more advanced than what they have in the U.S.") houseboats, even though a fairly insignificant phenomenon in Vancouver, are taken care of in future, through well-administered projects.
45,000 DOLLARS GETS YOU THIS

What does $45,000 get you with one of Frank Ogden's floating homes in North Vancouver's Aquatic Village? It is 40 feet long and 20 wide, complete with floating trim that weighs 13 tons. At the front where the living opens through sliding, the patio is 14 feet rear opens through onto a patio and a bedroom which brings the first. The whole like half a glassy batting or nine feet of concrete. The roof has a snow loading of 180 pounds per square foot. Because of the curve of the roof and walls, the snow just slides off anyway.

The unusual curved shape with the dip in the center allows the structure to take 85 mph hurricane winds without tilting. The shape is designed by Winnipeg engineer Franz Weisinger based on a mathematical theory devised by 12th century Italian mathematician Leonardo Fibonacci.

LIFE STYLE OF THE 21ST CENTURY? This 40-foot floating house in Vancouver harbor could be the first step toward a revolution in the provision of municipal services. A village of 28 of them will be permanently located on the water at the foot of Pemberton in North Vancouver in about a year. The house will be independent of the most expensive service the municipality has to offer — the sewage system. When you walk out the front door in the morning, you have a choice — a car or a boat.

HARBOR GETS WATER VILLAGE

FRANK OGDEN: "When you say houseboat to a politician, he sees a long-haired hippy living in a chicken coop on a raft. I want to go to the other extreme — so luxurious that there's things in here that the politician wishes he had in his house."
left: Frank Ogden's boat and marina in north Vancouver
below: the City's concept of a cooperative marina (200 units) in False Creek.
Sausalito, California

I felt uneasy in Sausalito, like an intruder at Gate 3 and Gate 5 and a little bit at Gate 6, that is, but mostly at Gate 5. Signs with "No tourists, no cameras" intimidated me even more, but that was not the main reason for my uneasiness. The feeling of being in a community that has been visited and made public over and over again was important for that, and the heavy rain, but also the feeling of lack of anonymity, of visiting somebody's most private sphere, without invitation. There was "chaos," yes, but more important, no easily recognizable boundaries of property and private sphere, a sense of community without formally defined and designed functional realms; casual parking, children playing seemingly everywhere without a "playground."

Periodically I met friendly old Patrick, heard fragments of the "war, that is going on," of physical violence, confrontation with bulldozers, towboats and over 90 arrests—all this amidst the muddy environment of small enterprises, cooperative workshops, car body shops, and office and industrial buildings.

I saw the new development and its office, the wide new docks with its sewer and power lines, high on poles, leaving the boats way down in low tide, the straight lines of custom-designed homes, the fences, paved parking areas with unusable basketball hoops, etc.
Finally Patrick referred me to Bob Kalloch, former harbormaster at Gate 3, and now living underneath one of the new straight docks with his small boat, surrounded by huge "floating architecture" under construction. He did not want to talk to me.

On the following day, in the evening, he approached me in his orange rubber suit (it was still pouring), between the cars on the new parking lot. I felt embarrassed for still hanging around and hid my camera (unsuccessfully, I dropped a lens). He said "how are you doing" as to apologize for his defensiveness when we first met; I felt his tension. I said, "Alright. I find it amazing what the developer does . . ."

He interrupted me. "I moved to here some 15 years ago. I built my own boat."

"I have done everything to preserve this community, I risked my life to fight the heroin dealers when they were here. I worked for the idea of a community school, and we had one for a while. I have done everything to fight everything negative that threatened this community, everything to ensure that everybody can live up to his self-destiny.

"What the developer does is in fact, preserving this area as a houseboat harbor.

"And because I support the idea of a houseboat harbor, I support the developers; and now these people over there, these free spirits, that wouldn't be here without what I have done, now they threatened to burn down my boat.

"I don't find it amazing at all. I find it the shits."

And he turned around and walked off.
What does it mean?

"Sausalito's Gate Five had humble beginnings as a mud flat where barges were repaired in 1914. The first houseboats were owned by employees of the Arques Shipworks. They patched barge hulls during the day and lived near their work at night. Gate Five was one of the original gates of Marin Shipyard, where Liberty ships were built during World War II. To construct the shipyard, the original Waldo Point on Sausalito's Richardson Bay was removed, creating a waterfront cove. To the eventual dismay of county officials, a perfect home for houseboats was also created.

"After the war, the locals returned. The shipyard came under the leadership of Don Arques, son of the original owner.

"When San Francisco Bay bridges were opened, three magnificent old ferries were retired. Arques bought the "Charles Van Damme," the "San Rafel" and the Issaquah" for $1,000 a piece and beached them at Gate Five, thus contributing to today's patchwork of ferries, scows, and barges." [29]

This is where, over the past fifteen years, "a unique waterfront community has anarchistically emerged." [30]

"A community comprised of the rich and the poor, the orthodox and the eccentric, the practical and the artistic. A community as diverse as the selfmade houseboat architecture which bobs on its waterscape." (Shallow words, I know, but hang on, the information is coming up.)

The residents include painters, potters, weavers, photographers, musicians, philosophers, artists, as well as lawyers, dentists, pensioners, boat builders, handymen, and -- like the rest of America -- its quotient of bums."

"There exists a local newspaper, a theatre troupe, a cooperative store, a Reggae band, and even a
community dream journal. But now, under the pressure of a land development mentality promoted by Marin County tax assessors, building code inspectors, and planners, Waldo Point is about to be converted into a nouveau-hip luxury suburban houseboat marina which will be priced and stipulated beyond the economic range and tastes of many of its current inhabitants.

In many respects, the crisis at Waldo Point is the product of the personality of its benevolent emperor-owner, Donlon Arques. Arques—not the typical landlord—has allowed, over time, a collection of some 185 boats and 350 residents to occupy his land in many cases without any formal lease arrangements. Many of the lower-income residents have converted inexpensive or abandoned hulls, subchasers, barges and ferryboats into interesting and liveable homes. For some, Waldo Point has become, in effect, a rent-free refuge where they could do pretty much what they wanted as long as they absolved Arques of responsibility and took care of their own maintenance. But, the influx of lower-income people and artists (many of them earning less than $3,500 a year) has in turn prompted wealthy Marin County hill people and officials to "do something" to control the situation "down there," charging that Arques has been running an illegal marina in violation of existing building, electrical, and sanitary codes.

"With increasing pressure [from the County over the past few years—Sausalito is expanding fast; property values and taxes are soaring], Arques finally decided to extract himself from the situation by leasing, with an option to buy, his property in the Gate 5 and Gate 6 areas to a limited partnership, Waldo Point Harbor, headed up by developers Lewis Cook and William Harlan. Cook and Harlan recently submitted, and had accepted, a master development plan to the County which would legitimate the idea of a houseboat marina for all the larger boats while casting
into doubt the continued existence of many of the smaller and poorer ones.

"In response to this threat to the poorer boat owners and residents, the Waterfront Preservation Association (WPA) was founded in early April of this year (1977) and filed suit to protect their right to remain at Waldo Point as well as to challenge the general desirability of high-capital redevelopment of the area. The WPA in effect is arguing, with the help of its legal counsel, that a de facto community has developed over the past fifteen to twenty years at Waldo Point on Don Arques' property which now deserves legal recognition and support.

"In a more technical sense, the WPA suit, filed on April 8, 1977, against both Cook and Harlan and Marin County, charges that they as prospective developers failed to: (1) give adequate notice and hold public hearings, (2) to file an Environmental Impact Report, and (3) are in violation of existing State and Federal laws pertaining to low income housing with their proposed plans. What the strength of this suit is, and what Marin County's response will be if it is successful remains to be seen. [30]

The community is split into positions that vary from Bob Kalloch's: "The people here have had a refuge from the real world. But graduation day was the day the lease was signed, . . . If Cook and Harlan back out the houseboat permits will be pulled and the County will clear the area." [30] to WPA Spokesman and former Illinois state planner, Piro Caro, who believes that genuine communities either grow by themselves--on a grassroot level--or they do not. ("After three centuries of the great scientific revolution we still cannot design a new town or even a housing development in any happy confident way, as a center of pleasure in living and as a fully
human environment; or if there is an exceptional success, it seems to be more the result of luck or of genius than of scientific calculation."

The former position expresses the opinion of the generally more affluent boat owners, who see the value of their habitat more in the idea of houseboating as such, and feel that their home is threatened without the developers, while the latter is more concerned about the idea of a community and the survival of a low-consumption life-style.

"And so it goes. One would hope that the existing community could somehow be sustained. But, as Sheriff Richard Hongisto has recently said in another tenants rights context, the International Hotel in Chinatown, 'laws in our society are written to protect people with property and money.' The simple fact is that what Donlon Arques once paid $15,000 for in an auction after World War II is now worth an estimated three million dollars as developed, middle class property. With Marin County in the midst of a highly speculative real estate boom (the average single family dwelling is selling for something in excess of $70,000) and Sausalito already developed up to its gills, Waldo Point is the next natural place for expansion. Given the prevailing monetary frenzy, it is not surprising that Marin County has wanted to get rid of what some have called that ramshackle hovel of lower-income people. Cook and Harlan's proposed redevelopment—with its up-to-code provisions—is clearly calculated, by the back door, to accomplish the same objective. Unless the courts rule in favor of the WPA's low-cost housing and environmental protection position, it seems certain that many of the current residents at Waldo Point will be asked to be poor someplace else. A twenty-year pluralistic experiment in low-consumption living will disappear."
Gates Five and Six

multi-purpose design:

Parking lot -- playground combination

Lower half: old docks
Upper half: new development
(Schematic sketch from an aerial photograph)

Construction of new floating homes in Sausalito
WALDO POINT ~ LEASED BUT NOT FORSAKEN!

The "Waldo Point Harbor" Master Plan.
Jane "Cain" Robinson

Jane lives at Gate 5, with her daughter, on a small houseboat "that a bunch of people built." She writes and is involved in "Waldo Works," the community craft shop.

Cain: I just kind of ended up here and I stayed because I liked the people and the community. The water originally was not the issue, but now it's very important to me.

Who owns this boat? It's mine because I live here, but now I realize that I cannot prove it, with papers or such, now the County questions our existence. The interface problem, property defense.

I have a whole own view on private property. Can you own the water, can you own the mud? In 1868 or so a state tideland commission sold pieces of tidelands. When the legislation came out that tidelands can not be private property, many had been sold already. There are legal opinions that question the existing property structure.

Huge corporations just own huge amounts of land and create that whole class of desperate landless people (look at the Mexican revolution).

(On the new development)
What's the point of living on a boat if you can't move, at least occasionally?

There, the dock is like an expressway. Stilted up, as it is, it doesn't allow for people seeing each other, here, dock and boat, both float, are on the same level, you just step on one, that's it.

The other thing that's really disgusting about the new development and its management is everything those people can relate to is money. They are not interested in a kind of work trade.

Neighbor: What's at the basis of the whole thing is just a strive for ethnic purity, with the credo that the white commuter is the master race.

Cain: But it is money, basically, it's like jeans and health food stores; "Better Homes and Barges."
People want to be able to build stuff themselves. Everything over there is just incompatible with what happens here. On Kappas Marina (a neighboring development) you pay mortgage and expensive fees ($200 per month on the average); but that's not the point. The point is that that's not how I want to live.

They don't allow children, for insurance reasons. Insurance just breeds fear, they mention all these things that can happen to you, so you get insured. There is no such thing as karma with insurance. Neighbors can take care of that or to learn swimming or a life vest. It's everybody's nightmare that a child could drown, everybody is listening to the splash; there was just one drowning in 6 years. There have been fires down here, sure, but there never was a real danger, the neighbors always got out to help very quickly.

And the other argument always is that we pollute the bay. Their wasteful and inefficient flush toilets pollute much more. I have this drum here a friend built. You shit in it and put sawdust and kitchen garbage in it, stir and ventilate occasionally, and in a year it's all decomposed. There is never a fly or bad smells. 40 people around here have these things in different systems; and there is a communal facility been built on the shore, where the showers are.

We don't interfere with the ecological balance; huge houseboats do. And about this argument that if developers go, everybody has to go; they plan to develop my small boat away anyhow. And if I can't be here, I don't want these big ferrocements to be here, either.

Neighbor: By the way, there are 10 fishermen getting 3-500 tons of fish a year, they send it to a company in Idaho that scoops the interiors out and they sell it to Japan for ten times as much. We can do that; it's labor-intensive, that's good. [32]
Epilogue

We have seen that the mechanisms for change are simple. With some generalization, both European and North American houseboats originally were used by water-related and transient professions and population groups. Other people, mostly workers, lived on the water during crises; houseboats became emergency solutions similar to other forms of squatter housing. As such, they were tolerated by the official side. In the last decade, while still serving as a low-cost alternative (or sometimes as the only choice) to the traditional housing market, houseboats, as part of a general trend towards individualism, were appreciated more and more by a group of people that had been always a part of the "floating population": people that were attracted and fascinated by the ambiguous phenomenon of housing afloat, and who consciously choose self-help and sometimes symbolic isolation as means for enjoying both the personal satisfaction of small-scale environmental control and soundness of a low-consumption life style. The "low key" of this environment is now being endangered by a two-fold process, most clearly in the U.S.

While the continuous struggle for legitimization and security of tenure results in the imposition of codifications and zoning of houseboats, the population shifts, partially due to the altered life conditions, partially due to rising prices. The rise in prices is due partially to the physical actions necessary to meet the new codes and standards, and the introduction of outsiders (plumbers, electricians, engineers, architects) handling certain issues—a consequence of strict application of common standards—resulting in the increased tying back in the money flow and consumption circuit of "the mainstream of society," and partially because legitimization and upgrading make houseboating more desirable, generally and for more conformist groups that "have the money" to bid for an item with very limited supply. The official side is not in favor of floating settlements, often due to irrational biases and preconceptions.[*]

*Quotes from the Head of the legal section in the A'dam Planning Department: "illegal boats house only junkies, attract rats, are dangerous, "not adequate," "on the water you can't live, it is for transport, fishing, recreation," "those are not houseboats, that are converted barges, I don't like those, houseboats have to be especially designed, with all features of a real apartment," and Hickley, Planning Vice Head in Vancouver says that the "biases against houseboats here (in the department) are irrational . . . image of marginal people."

( Kevin Lynch notes the relation to general historical conflicts between settled governments and nomads)
Short wrap-up of conditions.

In Vancouver a houseboat organization was founded only recently. The small boat population on the one hand, is still facing eviction in some places (Kanish Floating Village in Coal Harbor); on the other, it is already encountering "big brother": the new generation of floating homes, designed in one piece, in whole settlements (North Vancouver, False Creek). The present stock is "under control" and "improving" continuously because of the process described above.

Seattle's Floating Home Association felt it had to cooperate so tightly with official authorities and interest groups that it sacrificed almost completely the opportunities for (the formerly predominant) low-consumption housing. The further supply of moorages is restricted; only very stubborn developers manage to push packages of complete new developments.

To fight price escalation, the Association encourages cooperative moorages, and successfully struggled for the adoption of an "Equity Ordinance" (moorage rent control on a comparative basis), a device that uses a municipal "Board of Arbitration" to prevent arbitrary eviction and unjustified moorage fee increases. (See Supplement.)

In Portland new moorages are being developed only in very small steps. Here, too, houseboating is expensive and desirable primarily for middle-income groups. Professionals handle construction, contracting, design, and marketing of floating homes. Individually initiated change and action is unusual.

Sausalito is an expanding town. Rising land values and pressures from image-concerned citizens and county officials demand "improvements" in current moorage situations, i.e., the replacement of a low-cost community of self-builders and "freedom-searchers" with a high-cost development is in progress.

Left in Hamburg today are less than 100 houseboats (primarily "floating homes," acquired in Holland during WWII as emergency shelters). They are being extinguished entirely by a legislation that prohibits their sale and re-use as floating homes. A national waterboard manages the waterways; there is only a symbolic moorage fee.

In Paris, the boats (primarily converted river and canal barges) are just starting to boom again; the property situation—nationally administered waterway in municipal territory—seems to keep the residential barges safe. Xavier Esselinck, founder of the "association pour le defense de l'habitat fluviale," sees no threat in a boat increase (by provoking official action) but rather believes that a stronger boat population will exert more effective pressure on national water board for service provision, in return of the present moderate moorage fees. The effect of this policy seems in doubt. The future will show its impact on the low-cost dwellings on the Seine.

In London, which features all types of floating dwellings, waterfronts are owned both by public authorities and private persons. Fees almost equal the rent for a comparable flat; the availability of moorage spaces is limited; and tenure generally insecure and dependent upon individually arranged leases. The new legislation proposed by the "Residential Boat Owner's Association" outlines both
expansion of existing moorages by public authorities (assuming that this would happen "spasmodically and haphazardly if left to private enterprises") and the legal protection of moorage leases.

In December 1977, the British houseboaters were included in the Housing (Homeless Persons) Act, thereby making the local councils liable for evictions. (See "Supplements")

In Amsterdam, canal and river (edges) are owned and managed by the city; fees are low. The minimal regulations are being enforced increasingly in recent years. A national regulation is pending which essentially would require that all boats come under housing codes and masterplans, and which would outlaw all other boats. Additional regulations would freeze mobile boats and slowly wipe out those that refuse, or are unable, to meet the new standards. This process could be reinforced by new groups interested in housing afloat, since it then would provide for more security of tenure, and whose higher living standard and capital potency would deprive poorer people, whether by choice or not, from the opportunity of a life style with implicit potentials (self-building, adaptability) that would be made wider use of by its present population than by people with a stronger accent on security in their life style.

During parts of this report, I have questioned the role of the physical designer as well as the decision-maker on the political and legislative level. In their not dealing with essential aspects of (floating) housing—particularly its potentials for individual action—professionals and officials, in their approaches and actions, are reflecting their dependency on a conventional (biased) value system and the market, rather than the expressed needs of the present population to whom they do not feel inclined to cater.

A market system based on consumption and expansion, and thereby the continuous development and marketing of "opportunities," is what supplies us with bread and shelter, but also with a number of things we conceive as part of the "quality of life." This system is responsive and self-adjusting in its basic principles only in a limited way; catering and servicing have become ends in themselves, their main function an economic one. "Human needs" are often mere statements without a two-way connection with the originators of these needs. The danger of generating and satisfying needs from only one side (other than the consumer himself) is already classic. Adjustments, to put it carefully, need to be made to this system, to soften the inherent contradictions, and to guarantee the survival and resurrection of an active identity of the individual, to keep "quality of life" from being an anonymous dimension.

Again, what can the professional really do?

Four devices to preserve and generate low-cost and cost and people-controlled floating settlements on privately leased or publicly managed moorings, are being discussed in the following, hopefully stimulating further reflection.
-- legal protection (price control, territorial protection, etc.) -- not effective by itself in a high pressure market situation. Tax breaks for moorage owners would help. The success of this device is at least questionable, in the absence of other factors which might prevent "buying in" and the increase of values. Examples in South America show the problems with this approach. Higher class groups using higher payments occupied legally protected low-cost, but physically desirable housing developments.

-- forming cooperative moorings, by collective purchasing of pieces of waterfront. The objective is to form a user's trust -- in order to retreat in part from the rules and dependencies of the open market. Legislative aids, and an increase in the supply of waterfront sites are also necessary to maintain low costs. The problem is that in a situation of high desirability of houseboats "buying in" by privileged groups will be hard to prevent.

-- practicing a policy of "split tongue," of "unsupportive tolerance"; or as Kevin Lynch suggests it, as another device for encouraging low-cost, user-controlled housing: "Keep the housing marginal, and undesirable to wealthier burgers, as by insecure tenure, danger, discomfort, ill health, poor access, or severe personal effort."

In fact, some of these devices have found application in several Dutch cities, as "silent agreements"; as in Amsterdam, where the status of most boats is an "illegal" one, the only effect of which is to make these spots undesired for wealthier and more conservative parts of the population. The insecurity of tenure is accompanied by severe personal efforts that exclude the other devices Lynch suggests. Groningen, the capital of the northeast province Friesland, gives another example: here tenure is secure, all boats are "official," but in different categories (listed below), that ensure that people with higher expectations on status-reflecting symbols are not attracted:

1. fixed moorages with and without electricity (catering to academic groups).
2. "unsecure" (onzekere) moorages without electricity: ships and boats have to be prepared for being moved around when navigation needs require it (skippers, mobile groups).
3. the marina, still in the tradition of a site-and-services settlement for the poor before WWII. It charges only symbolic fees, but is crowded; has insufficient supply of fresh water; lacking sewer system hookup, smells in the summer; and is in a bleak industrial environment with poor connection to the city (working class, retired persons, students).

-- providing sufficient additional supply, or as Kevin Lynch suggests it, "provision of a more than adequate supply of sites, materials, and infrastructure, so that no scarcity develops, and show people how to use them."

The shortcomings of this approach -- especially if one takes into account its trend-reinforcing character -- lies in its unrealistic assumption of a theoretically unlimited mooring
supply, or a supply that will equal or exceed any developing demand (and thereby protect the chances of lower-cost and individually determined life-styles). A supply limitation after an initial market liberalization would result in a situation where prefabricated (unsinkable mobile homes) and expensive custom-designed floating homes would exclusively dominate the market. A liberalized situation of generally desirable houseboating where sufficient mooring supply will guarantee peaceful coexistence and "equal opportunity" for all houseboat classes, would seemingly be exceptional.
Boat People
Peter Hakkenberg, Zwanenburgwal, Amsterdam

I now know other people over there who don't mind my free way of life. They had none and had to tap lanterns illegally. Now they don't talk to me anymore.

I know the people on the other side of the street: one over here and one over there. They used to provide me with electricity, back when most boats had none and had to tap lanterns illegally.

I now know other people who don't mind my free way of life. They are not afraid because they like to make experiences themselves.

People complain but they can't do anything. And they mainly complain about the junkies.

The main arguments against houseboats here, stove fumes, sewage, prostitutes, and junkies, are not specific boat problems, but rather general problems you find everywhere. To change...

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Drawing by Peter Hakkenberg
these bad sides of life you don't have to tear down houses or move boats. You can solve these problems with the existing regulations. I think there are no real, hard reasons against the boats, but more psychological ones.

Cluster and communities: People live together, but not too close. Frank Laufer and Jan Maarten, for example, are close neighbors, watch for each other, use each other's tools, but don't live together all the time. When I had my other boat 8 or 9 years ago, we lived in a very mixed community of boats, officers as well as beggars.

The theory that certain boats are attracted by certain places is false and superficial. It is a pretentious mentality that thinks that way.

Where I used to have my boat before we had to leave, the police had to use its right for navigation regulations to kick the 23 boats out, to please the rich neighborhood.

I chose the new place here because it's nice, no traffic and quiet.

I have a book about self-made houses; that's not possible in the Netherlands. People that want to build for themselves have to move onto boats. Some people do want to build; on the boats, it's possible. I also like to use my muscles sometimes to build and not stay there all the time on the drafting table.

You can tell whether the original owner, the skipper, still occupies a houseboat or not. He says it's silly to "keep the boat original" and builds high on top with clean and new materials, so he can look on the water like a house. He cannot imagine living in the cargo space. Only the non-skipper wants his boat to be like a boat. [Similarly, a skipper would probably not sail for fun or on vacation.]
Bulgar Finn
Amstel, Amsterdam

Bulgar Finn

This is no kind of solution for social problems but it creates incredible freedom living this way. I have always been out absolutely out.

I started with a piece of wood I worked on a piece of wood and thought that is a fine painting! Now there are 4 major works in this my life. The works on wood the American Icons the papers the Books (the diary) these rafts like a theatre the woman. I have 40 Books now some are not written.

It is not my job to explain what's happening. Within the limitations of our neighbors the government there is a great degree of freedom.
(The business man thinks
If I only had no responsibilities
I would be really free!
Here it's exactly the opposite
you are free although and because you take the duty to take responsibilities the responsibility.)

Two years ago
the ship was completely naked
I took everything away after the officials asked me to take my high raft down it was aesthetically wild used the wind there was no function. The official counter reaction was that they asked me to be more creative again. Huyer the police officer spent hours here to find out why I've taken everything away.

The ship is the mother of all what happens but that first raft was the father of all rafts.
I graduated in Florida 1957/58.
In 1961 I decided to move to Amsterdam.
I was 31 then.
I don't want to be in the States.
I see America as the child.
Here it's father and mother.

We had Macy's here it's the real magic of survival.
The magic of Robinson Crusoe.
He comes into a solitary situation with an enormous cultural package.
That's what we all would like to be in a way.
He had the culture a rich survivor.
We concentrate in what people throw away.

All the materials are connected with people.
The essence of art is invention.
Glass, matches.
The chance of creation is to be really inventive.
The essence of all material is light.
Of course
is Bulgar Finn not my
REAL name.
WERNER KARL GLUCK
was 559 months old
on August 18, 1976
the work is in its
149th month.
Before BULGAR FINN
there was Jack Sun
and VICTOR IV
for several reasons.
A new name creates a
new tradition
who says a tradition
cannot be hours?
old?
Jack Sun
Jack & the beanstalk
and the SUN
Victor because it gives
no information
it's neutral.

Material is shadow
the second shadow.
It wants to return to
light.

You have to be careful
when you are stupid.
This is all stupidity
that didn't prove
fatal.
You need a very
selective stupidity
and intelligence to
be creative.
It is stupid to live
on filthy water.
Of course
was the man stupid
who invented the match?
(A little stick
how can it possibly
ever burn by itself?) 13
Now it is Bulgar Finn
Bulgaria is almost the
only country I cannot
associate any tradition
or history with.
not because there isn't
any
but because so little
is known.
Tradition that doesn't
exist is the best
tradition
of course it's NOT a
tradition
but it helps
it's something like a
tradition
the tradition of the
old capital
Bulgarij.
It also allows to
create
to have an instant
tradition.
People I feel
admiration for.
Anton Heijboer,
Nobokov
Jules Pfeiffer
Blackman
Fred Wiseman.
In the end
It's the work that
counts
all the support you
can rely on
you need to rely on
fall away.

I am doing my best.
Excerpt from a book
145 (the 145th day)

Life is all discrimination, it's discrimination to use copper instead of steel etc. The different powers of the two hands that's what created a pile of 3 meters high the Books.

The essence of the normal society is its efficiency routine order normal functioning with its consequence of boring by its over and over and over again repetition what is an opposite to the the concept adventure which is always to do with the first or second or the thousand but not the million/billions which is the repetition which is the boring for one can count up to 10,000 in a day. But not a million.

It is a question of enthusiasm or not and enthusiasm can live with the lower numbers but suffocates in ten millions.

normaal & NORMAL
the line of normaal

efficient  3
boring     4

the line of enthousiatie

danger      2
art         1
efficient   3
Hans Brinker once saved a part of Holland with one wet finger in the dike and the Second Quality is working to make another hole in the dike. But not to let the sea in only some fishes named hay straw flowers old wood art inside and holes in the dike are absolutely forbidden but a hole with control is possible for that is only a small lock (sluis) to let in some freshness and still hold out what is not wanted.

So we apply for permission to the Minister of Exception and trust he/she will give us license.

It is good there is Bulgaria not the REAL Bulgaria but the Bulgaria which is possible.
Constructions

The beam and planking are the holding supporting structure. The plastic covering is the rain shedding covering and the hay/straw top covering is the protection for the plastic against the sun and the problem is how to keep the straw atop the slippery non-adhesive plastic sheeting. Particularly at the edges. And the answer is a strip of slightly overhanging jute burlap sacks along all the edges weighted with heavy wood which secures the borders of the particular surface. The interior space may be free of the jute/burlap and wood weights for the hay and/or straw has its own structure and will not fly off in a heavy wind. It is only the edges that are subject to this weakness and the solution is above so the roof covering is stable.
SECOND QUALITY is the basis.
Things are found or
given to us
and we give them
a second chance.
See the nails in the stove
in the ash
they remain when the wood is burned.

Wash them.
they get a second life
but their pride is gone.
They show gratitude
they are surprised for
their second life
second hand stuff now weak.
Weakness is more human
than strength.
The mother-ship is 87.

My rafts are not really sculptured.
I see sculptures as very dead things
it's almost always like a blob.

The rafts are constructed out of driftwood
tied together with
.tarred lady's nylons
and bicycle tubes.
It's incredibly strong.
The day when that big steelen factory got
blown away in a storm
I felt some satisfaction
because it didn't harm
the rafts
no tensile strength

that's the secret
and there is always interaction
always movement.
It makes drama to the rafts.

The rafts are carried by hundreds of plastic
containers
I keep shoving under always under
10 liters here
10 liters there or 20.

My rafts are not really sculptured.
I see sculptures as very dead things
it's almost always like a blob.
That is 10 kilograms here
10 kilograms there.
So I bring them constantly higher and higher.
I know a place where I can get the tanks for free at 6:30 in the morning.

As any engineer I want some perfection.

The yacht "Yes" alias "The Creeper" now under construction.
The new space dimension of going somewhere the idea of the organism that sends a little part off the fixed structure.

Slow motion in maybe one or two km distance. It's a fascinating concept.

Again, the rafts are flexible otherwise they would break.
The best connection material is tarred nylon ties etc.

The boat hangs on inner tubes. It is silly to build for eternity to build perfectly then there is no space for improvement.

Why is God a tourist why all this nonsense of unperishing immovement? Why doesn't God retire?
Neighbors etc.

No, there are almost no contacts to the other side of the street; it simply doesn't happen; but I am very interested in other people's lives. The environment is very important. When there was construction on the street, there was chaos. I felt it was the time for chaos; you could make a fire and so forth, roast something etc. We built on the boat and I had the feeling that we caused the building going on on the street.

The only thing that is really annoying here are the tourist boats that pass by every 15 seconds; most of them stop and the girl inside or the captain describes what is going on.

It's not the tourist's choice to pass here in that particular distance and at that particular speed; all these tourists in the glass cages look; there is a blue coat and there like a moving zoo. Isn't it terrible?
Two passages from my notebook:

17 July

This morning Bulgar's rafts were rearranged. They have invited the chief of the harbor service to inspect the boat. Bulgar explained that they were nervous because of the destruction/problems of Jasper Grootveld and the discussions with me. Bulgar also said that he was going to sue the tourist boats for pointing at him. He said he, and especially Ina, could not take it any longer, "there must be a legal protection from hauling bunches of foreigners in front of your window and pointing at you and labelling you 'hippie king' and so forth."
July 19

I feel said Bulger today like normalizing my situation slowly you don't have always to be to the extremes. It's been a real treat to ride a normal bike again without flower bundles and not having all the eyes on you.

The fight against the tourist boats will be very important for us. Imagine they would be like tramcars and would not point at us any more with stupid or any remarks

would point at this bridge and at that bridge and not at us and we could stay here and free of them after 5 years of tourist boats.

no harassment any more and if somebody waves from the boats by God we could even wave back! (What would you think if every 2 minutes a busload of people would slowly pass your window and say about your plants every time and about the same plants that they are related to cannabis and do strange things at night?)

Should I smash the windows to their offices (I might have to) to make them believe I am a madman and dangerous? Or dump this terrible stuff Amstel mud on their boats?

The director of one of the 6 boat companies told me the other day that, yes there was already a similar case an old lady that couldn't put up with the tourist boats any longer and isn't that funny she went literally crazy and ended up in a madhouse.
Commentary from an elderly man who owns the house and the small art gallery right across the street:

No, I have never been on a boat. I don't find it annoying or disturbing at all, but rather animating. An empty river without houseboats would be awful; now, that there is no loading and lighting any more on the river, the houseboats come to play an important part.

The boat right across the street (Bulgar's)? I think it's extraordinary. The people are really nicer than we ourselves, they maintain the walkway and part of the bridge, which is the city's task. See: out in the Bijlmermeer nobody owns a garden or such, that becomes automatically a dead city; but here: the people keep an eye on the street!

We are, I believe, good neighbors; talk a lot with the boat people, also the other people here on the street.
In May 1978 I received this letter from Bulgar. He wanted to let me know about "our new adventure" to move boat and rafts out to the eastern fringe of Amsterdam, closer "to China" (away from the tourists), but also away from Bulgarij.
Beppi en Peter Hartwich, Amsteldyk, Amsterdam

Mr. and Mrs. Hartwich are both 38; he is a truck driver, she a housewife. The children, Natasja and Peter are 6 and 8.

Beppi: Outside a ship, inside a house. Everything we did ourselves. Sixteen months we live on this boat now. Before that we had another one for a year, and before that we lived in a small house in Amsterdam South.

Here it is much better. It is free, no neighbors, no rent ("geen buur, geen huur"), no traffic, the children don't want to go back, there is enough space.

The boat was 10,000 guilders ($4,000), we added 13,000 and one year of work. Wood panelling, windows, roof, water, and now kitchen, toilet.

We do have an official place at the next bridge, it's $160 per year. They told us to move temporarily because of the construction that is going on now over there. So we are sitting here with our electricity from truck batteries.
It's always nice on the ship, no problems, we watch out. The river is the best place to be, open and free and so.

It is a hard life, but it's healthy.

Peter: Since I was in the military I had always the idea to live on a boat. I worked five years as a cargo sailor.

Our first boat was a Westlander, a sailing model, we changed it ourselves, but we had to sell it again, because of the baby.

This is a Klipper or Klipperaak now, a motor vessel, shaped after the large klippers that sailed to the West Indies. A ship is a ship. You have to be able to overlook the whole roof from the steering house, that's how I built it. Keep the construction low.

On the weekends we go for trips. Last summer we went to France. There are 256 bridges and locks on the way, and Beppi went always ahead with the bike to tell the bridge officer that we are coming.

We don't like the residential marinas.

There is no contact with the people across the street, no idea about them. We are water gypsies for them. The people on the water are much more helpful.

If a boat is nice to look at, it should stay; if not, it should disappear; everybody can keep his boat tidy if he wants to. You should see what kind of junk is lying around.

That's not good for tourists. The crazy guy at the Blue Bridge (Bulgar Finn), that is no advertising for the city; they are talking about him in the tourist boats. Incredible!

There are three classes of boats: the houseboats, the converted freighters, and the wrecks. The junk boats pull the others down, worsen their image even more.

People don't know anything; they think we are asocial, trailer people, that we don't have washing machines or electricity.
Comment from a woman that lives in the second floor across the street (heavy traffic):

Q: Good afternoon, madam (madam with two naked children high up on the stairs), I am an architecture student working on a study on residential boats, houseboats. I am also interested in the opinion of their neighbors, in their comments.

A: Houseboats, what houseboats?

Q: The ones right in front of your house.

A: Oh, you know what, why don't you come back next week, and I will have a look at them in the meantime and give you my opinion.

Q: You don't live here?

A: Sure, I do live here, but I didn't notice..
We're on the river 13 years now, on this boat nearly nine. When we married, we looked for a boat straight away. For a boat or a windmill.

This combination of town and peacefulness is what I like. Before we came to this island we were on a place where developers started to buy. They told us to leave; we were harassed; our right of way got blocked. We left finally, even though we had collected 1000 signatures. No security of tenure. From five boats that had to move it actually was just us that stayed on the water. The rest had enough.

We came here and changed our landing craft for this 1928 Scottish fisherboat that never fished. She always has been a houseboat. We just added things. Now we are five, Mark (11), Madeleine (8), Brian (44), and me (36). And Sally, the cat.

Taggs Island is o.k. Twenty boats sit all around. There is too much of a gap between rich and poor. I'd like to see the island more as a public park. Our garden is important, for the children. There are 20 children here. We have no enemies. There is no point in making enemies.
We might lose our bridge. They loathe houseboats in the yacht marina.

Sometimes people get trouble in their jobs because of their boats.

Colleagues tend to look down on you. I know a man whose promotion got affected. He lives in a flat now.

Some boats ought to be condemned. I would like to see some basic standards. Of course, you can't expect to have the same amount of space. Not having a bathroom shouldn't condemn. I think houseboats ought to remain a minority thing; it's a bit of a gypsy thing. I'd like the river side more open for tourists, playgrounds and such, not just for housing.

It's $180 insurance for third person damage, fire and theft; $5-600 for a wooden boat. Our "Stormfinch" is wooden. The bottom is copper-shingled, needs to go to the Sase Beoton 0 1 2 3 4 5 m/etrs.
dock every 5 or 6 years. It is difficult to find a contractor for repair jobs and changes. We do it all ourselves, especially me; Brian is not a very practical man.

We love books. One of the advantages of a boat is: you really have to select your books. They take space away.

No, I can't swim or sail.

The only one that really hasn't enough room is Madeleine. But she is such a content little girl, if she hasn't enough she goes and plays underneath the table. We think of having a small narrow boat for Mark to give all of us enough privacy.

Jenny Bell is a social worker and Secretary to the Residential Boat Owners Association.
Sie Sjenitzer,
Weesperzijde, Amsterdam

We are three years on this boat now and don't want to move. Originally, Kees and I never thought of a boat when we looked for something to move together, something inexpensive. We are no great builders, the boat was pretty much like that when we got it. All we did is the repair of the steering house, a new roof, insulation, some technical improvements.

I didn't know that I could do so much myself. We have no experience, never done anything in wood, and especially not in these dimensions. I am a social worker, Kees is a lawyer. Somehow we would never call a plumber or carpenter, as we would in an apartment; you simply don't do it on a boat.
But generally, as I said, we never would have done it all ourselves. It's a certain trade-off you have to make if you are a self-builder, and for us there is a definite limit to that. We would rather read or do other things than paint or tar. Still, it is a lot of work. At the moment, we are painting the outside and we can't let our son out, otherwise he gets black all over.

We don't want to go back to an apartment, I say, but one day, I guess, we will have to. Steven is 8 months now, but when he will be older, ready to ride a bike or so, it might get too dangerous. Sure we are very close with our neighbors, watch each other's beans sprout and such, yet people are very much individuals. I would
feel very nervous going to work knowing he was running around on the boat. It's much better to moor here in the second row, with the open water in front of you and nobody walking across your roof.

The hotel owner across the street likes us as people, but he'd rather see the boats disappear. Another man across the street complained to the police when we had a little garden on the mooring. He said he doesn't see why we should have a free garden when he has to pay even for the little sign he has out on the street, for his shop. "What do we have to do with them?" think most of the people. We cannot expect help in an emergency situation, not from across the street, only the boat people help each other.

There is a big difference between summer and winter. Everyone is out in the summer, in the winter everybody creeps back into his hole.
The skipper, the original owner of the boat, was here the other day, curious what happened to his ship. He didn't feel at ease at all here in the big space; the idea of having this living room actually in the cargo space was very strange to him.
Comment of the young director of the hotel "de Amstel" across the street:

This form of housing is more free, you have no neighbors and so on. Personally I would prefer to see the river without boats, but, after all, you have to consider the people that live here.

I worked on the "Mermaid" (a floating KLM hotel in the harbor) that was very nice, like a normal hotel. I also lived on a boat myself; there is no big difference from a normal house.
My dream of heaven always was: eternal month of December, this dark, soft, melancholic time before Christmas.

I am on this boat already more than a decade. I was married, had three children. I used to be a teacher in Roman languages, a priest.

This all has collapsed. One day, my wife disappeared with the children. I went literally crazy, was really scared to get into an asylum.

How do you hide your craziness? By showing everybody that you are crazy.
In 1969 I started to convert my formerly average boat, the "Lowlands Weed Compagnie Compagnie" was founded, growing and selling grass. The city doesn't really object to that: they know that and where it is happening. I am almost a social worker here: a group of kids works here, they get responsibilities that keep them from the street. The city appreciates that by accepting that we squat in one of their houses across the street.

Well, it was in 1969 when I started fighting boredom. Boredom is death, we say: I'm bored stiff. Ich langweile mich zu Tode.

You are an architect: See, this is architecture, it's boring, and it would be nothing if it weren't at least functional, practical architecture.
Take the Pole:

You know, the police always nicely bend over backward to find quarters and give them back to the old ladies that lost them. So Jost, my advisor and architect, said: You have to build high and let everybody know what you are doing. And indeed: when the police finally showed up one day I said to them: Just a minute! and climbed up that pole and started yelling down at them, and they shook their heads and left. It wasn't a case for the police anymore, rather for the ambulance.

If they see that raft out there made out of old inner tubes they ask: what is that pile of garbage? and we answer: That's where we hide our weed away, and they laugh and clap our shoulders, they don't want to believe it, otherwise they would have to humiliate themselves by actually
entering the raft and digging around.

But generally, I have the best relationship with the police. The construction is much higher than allowed, but it is also older than that regulation. Other people, relative newcomers, like my neighbor and competitor Mike Cezar, have had destruction commandos on their boats. My friend and neighbor Jasper Grootveld, who used to be a leading Provo figure and is now constructing these sailing vessels and rafts out of junk and garbage, left the city in protest, sailing away on one of his constructions. The officials are really getting more and more uptight.
See the interior:
The ceiling is a true
storage area, all kinds
of things tacked up to
it.
Traditionally, the
ceiling is the cleanest
part of a room, because
the woman, the housewife
lies on her back when
she has intercourse
with the man; she looks
up to the ceiling and
spots stains and dirty
areas; so the ceiling
is kept always proper,
always clean.
The first thing that
amazes women here is
the ceiling.
Children can judge
architecture best.
Everybody says that,
but very few act
accordingly. Recently
I have installed a
lemonade fountain, to
fulfill an old
childhood's dream of
mine. I believe in
the personal taste
coming spontaneously
from yourself. If a
child gets enthusiastic
about something: it
must be nice then.
To discover that is
very difficult for us
adults, due to lack of
appropriate experience
in our childhood. I
allow kids to climb
up and down the pole; to warn them would be nonsense. Say: Break your legs!

I do care very much about what my neighbors say about me. I do not want to provoke them in addition to the jealousy that they feel already when they look out of their remarkable cages down onto the boats with their free intimacy.

I used to moor in a very classy quarter: the neighbors kept on complaining. So I said: This is your neighborhood, and I left.

Before I actually moved here, in the coffeeshops and bars, people that are representing the neighborhood most: the milkman, the butcher, the hairdresser, etc. and I showed them a photograph of my boat and asked them about their opinion. When I felt that they wouldn't object to
having me as their neighbor, I moved here. Today, the relationship to them is very good; they even keep an eye on the boat, if I am not around.

Commentary of the 48-year old grocer right across the street, when asked about his perception of the boats:

They come to buy here, all of them. I know them well. They don't annoy me, except the hash boats, they are not that nice. Kees Hoekert personally? No, I don't have any problems with him. The people in the neighborhood in general are not at all against them. We are used to the boats. They are just another kind of apartment.
Jasper Grootveld, ex-Provo leader and junk-raft artist, about the future of floating environments:

A raft is a thing that you add to the water and where you can build upon. I want to prove that you also can cultivate fields and gardens on them, and that you, eventually, are able to construct large islands with this material that does not rot, large islands that can sail. Islands with trees and light industry. All The Netherlands can move on a raft! I believe in mass movements from continent to continent. Millions of people will cruise across the ocean. (Wonen-TA/BK 16-77, cited by Maarten Kloos)
Marijke Dunewald, Nieuwendammerkade, Amsterdam-Noord

Marijke studies graphic design; her husband, Ranger, architecture. Both are in their twenties.

We are a close-knit community here. We have even a group of advocates that works for us if necessary.

It was crazy in the flat. We lived 5 years over there, in the new housing project. Here we live under friends, although we don't have more privacy than before.
Here we are carpenters; there everything was regulated, here a button, there a button. Here you are closer to your environment. Wood cutting and so on.

Usually we sail in the summer. We plan to redesign the sail; the foundation is done.

Our plan is to stay here as long as possible, not until 80, but long enough to do what we want -- sail to Scandinavia, for instance.

Here we can get in distance to consumption; we have windpower, no car. I make all our clothes myself.
The people in the village don't worry about us, but I'm sure many still wonder what strange figures live out here. Everybody thinks something else. Ranger's father asks: When comes the wallpaper? My brother says: Nice, but he isn't happy about it.

These curtains block the views from above at night. Our direct neighbors we hardly know, the relation is not super.

In the city the boats have flowers on deck; we have a forest here.
Derry Sherensky, Seattle

Derry (34), Ski (37), and Jill (9) Sherensky own a floating home on dock 2019, Fairview Avenue on Lake Union, one of some 15. This dock structure goes as far back as 1909, when the city sold underwater lots to help finance the Alaska-Yukon-Pacific Exposition. The only way to get some return for the shoreland owners (that practically were forced to buy in order to maintain access to the lake), was to develop houseboat moorages. Rent today is between $150 and $200 per month.

Derry: This used to be a slum, a change is going on in the last years, prices have quadrupled. Many dock owners are unscrupulous.

Most of the houses are open here, and people simply walk in and borrow stuff. You find that only in very small towns, maybe.

We used to be uplanders. I was born in Worcester.
Mass. I study American history now. We were married when we were teenagers.

We had dreamed about living on a houseboat, living amidst water, since we came to Seattle.

1967/68 we had to move to Southern California, because Ski went to school there. We hated both, the Air Force, and the place—the desert, plastic people, plastic grass.

One day I looked out of the window—I'm sure I was crying—and I said: "Ski, when we go back to Seattle I want to be able to look out onto water all the time." So, when we came back on vacation, we took a kayak up and down the channel, knocked on every door—it was the idea, we were so excited. We found this boat six months before we actually moved back. Houseboats here are being sold by the word of mouth, little notes in the grocery store, etc.

We have no experience in building, but here we got into it, we changed practically all the inside and are still doing it.

This is very much a do-it-yourself dock, the docks are very different, you see. 2025 is a party dock, it's nice but you wouldn't want to live there. 2017 is a conservative dock with big houses where people hide in. 2019 is known as an active, "root-conscious" dock. (Most of the docks have names, we actually never could decide on one.) Often the moorage owner lives on the dock as well, and some have a bad relationship to their tenants, like the guy on the other dock that built that huge ferrocement box in front of everybody's sun and view. He doesn't understand what houseboat life is all about.

Oh yes, some people who live down here don't want their employers to know where they live, they have false addresses or have to move to a better address for career reasons.

We plan to live here forever, at least until Jill is grown up. I cannot imagine living in
a house that does not move; these houses are alive, they move in parts.

And there are the "stringer parties." The stringers rot, you know, the cedar holds longer underneath, so you have to change the stringers every ten or fifteen years or so. You call all your neighbors, get a keg of beer, a wrench, chainsaw, crow bar, sledge hammer, leg bolts, 16" drift pins. It's wonderful. You swing your house around and lift it with a kind of a water hose you place beneath the stringers and fill with water. Our floor was warped, now it is better, but the doors didn't close anymore.

The fun is to get all these "experts in your neighbors," everybody seems to be a specialist for something else, how to do this or how to do that.

We also had feminist stringer parties!
Jane "Cain" Robinson, Sausalito

Jane lives at Gate 5, with her daughter, on a small houseboat "that a bunch of people built." She writes and is involved in "Waldo Works," the community craft shop.

Cain: I just kind of ended up here and I stayed because I liked the people and the community. The water originally was not the issue, but now it's very important to me.

Who owns this boat? It's mine because I live here, but now I realize that I cannot prove it, with papers or such, now the County questions our existence. The interface problem, property defense.

I have a whole own view on private property. Can you own the water, can you own the mud? In 1868 or so a state tideland commission sold pieces of tidelands. When the legislation came out that tidelands cannot be private property, many had been sold already. There are legal opinions that question the existing property structure.
Huge corporations just own huge amounts of land and create that whole class of desperate landless people (look at the Mexican revolution).

(On the neighbored new houseboat development) What's the point of living on a boat if you can't move, at least occasionally?
There, the dock is like an expressway. Stilted up, as it is, it doesn't allow for people seeing each other, here, dock and boat, both float, are on the same level, you just step on one, that's it.

The other thing that's really disgusting about the new development and its management is everything those people can relate to is money. They are not interested in a kind of work trade.

Neighbor: What's at the basis of the whole thing is just a strive for ethnic purity, with the credo that the white commuter is the master race.

Cain: But it is money, basically, it's like jeans and health food stores; "Better Homes and Barges."
People want to be able to build stuff themselves. Everything over there is just incompatible with what happens here. On Kappas Marina (a neighborhood development) you pay mortgage and expensive fees ($200 per month on the average); but that's not the point. The point is that that's not how I want to live.

They don't allow children, for insurance reasons. Insurance just breeds fear, they mention all these things that can happen to you, so you get insured.

There is no such thing as karma with insurance. Neighbors can take care of that or to learn swimming or a life vest. It's everybody's nightmare that a child could drown, everybody is listening to the splash; there was just one drowning in 6 years.

And the other argument always is that we pollute the bay. Their wasteful and inefficient flush toilets pollute much more. I have this drum here a friend built. You shit in it and put sawdust and kitchen garbage in it, stir and ventilate occasionally, and in a year it's all decomposed. There is never a fly or bad smells. 40 people around here have these things in different systems; and there is a communal facility been built on the shore, where the showers are.

We don't interfere with the ecological balance; huge houseboats do. And about this argument that if developers go, everybody has to go; they plan to develop my small boat away anyhow. And if I can't be here, I don't want these big ferrocements to be here, either.

Neighbor: By the way, there are 10 fishermen getting 3-500 tons of fish a year, they send it to a company in Idaho that scoops the interiors out and they sell it to Japan for ten times as much. We can do that; it's labor-intensive, that's good.
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the other thing that is really different
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kind of work trade.

that's at the heart of the whole thing
is just a scheme for other things,
for the white community is the
brown race.

but it is more locally, it's like farms and
health food stores, "bette homes + boys.
people won't be able to build stuff
for themselves."
Emily Dawson,
Delamere Terrace, London

It is my fourth year here now. Isn't it nice? It took me a long time to find the right places for the furniture; it didn't look all right; the things didn't look at home.

There is no room here, but you didn't see my neighbor's boat. They seem to handle it pretty well. Their children were born there. The narrow boats are 6 feet wide. Those nice 14-foot boats -- you could leave all the dishes and it wouldn't matter. You could also have separate spaces.

I always wanted to live on a boat. It is peaceful, quiet, at the same time moving. I like the idea to go, although I never went anywhere. I feel very at ease with water. I love the sea. Both my grandfathers were sea captains.
Three dreams I had all my life long: a bead curtain, a Soho dinner, and living on a barge.

I like those tour boats going by and the movement it creates, and the restaurant boats. I hear voices and music passing, see people standing and moving with glasses in their hands. The weekend is nice.

Children are a nuisance, they steal things and try to throw stones as far as possible across the canal.

It's a very peculiar neighborhood, very unusual for London; I think all these people are very helpful.

The location is good, the tube is very near.

It's getting expensive. The fee used to be 150 pounds per year; last year they raised it to 400 ($650).

I would hate a flat; dirty, crowded, expensive, terrible.
The place is leased from the Port London Authority for 520 pounds a year, since August 1976. An adequate apartment would be 900.

My friend, an architect helped me building all this. The plumbing is inadequate, the wiring obsolete, but the boat is owned. That gives you some security.

Here are no residents around. I am a watchman for the PLA. It's a bit insecure in that sense. I am not frightened; there are bars in front of the windows. For the rest, there are nice people here, very ordinary, mostly Cockneys.

It's very nice to live that spacious. I didn't quite understand how much space I have got until I started. I wanted my own space, well, here, the Thames, I think it's all mine to look at.
Plan to develop (there is base involved in a kind of business) that house as 1st or a permanent home.

To post 1a

Instruments don't understand what it is.

Some people don't like very much, but they work.

Chelsea bank: 80 people, excited for saving reason.

Thames District Authority

Paddo
Klaus von Staden,
Wuhlenburg near Hamburg

Well, there
have been living boats
already before the war:
in 1943, however,
quite a few have been
brought over from
Holland, many of them
"confiscated: by the
Wehrmacht, the German
military, as a lot of
people had to realize
painfully later, in the
Fifties, as Dutch people
came to claim their
boats back.

In 1950, as a student, I
moved into a mass shelter,
Hamburg had been bombed
completely. It was too
expensive. There were
4-500 house-boats in
Hamburg at that time, and
I found a boat was an
ideal solution. I looked
around, searched wharves
and shipyards, finally
found a Dutch houseboat
with its typical stain
glass windows. It had
served the German Army as some kind of brothel.

In the following years we got kicked around, my wife and I, finally we managed to sneak behind this dike here, before it was closed. The Water Board had to accept it. Landscape commissions were formed, because of us; we had to sign a pile of contracts over the time.

In general, during Reconstruction in the Fifties, people more and more objected to the "Hongkongization" (a slogan also in use in Amsterdam today) of Hamburg. The first step was the eviction of "a-socials" through increases of mooring fees. Later a law followed that prohibited the re-sellling of boats for housing purposes. That meant their slow death. (However, you still can use boats commercially, I remember my haircutter used to work on one.)

I don't know what distinguishes the German from the Dutch or British way of planning, we here don't seem to be able to tolerate things like house-boats.

More about myself: Back in those days after the war, we houseboat people felt we were the happy few, we formed a separate world, even though most were strangers.

I remember that terrible firestorm: the blaze killed everybody in that section--except a few boat people. In February '62 we had a storm-flooding, dikes broke. Here in this area nobody had water, or coal, except us.

My boat has a steel bottom, but I don't have to maintain it. Years ago I filled it up with cement powder: so the metal can rust away, what remains, is a concrete shell. We used to pay about $5 fee per year, now it's $4 per month.

The winter, usually, is a long ice-picking period for us. And constantly the noise of cracking ice.

But after all, I wouldn't switch with anybody, or move into a high-rise, even if they paid me.
Xavier Esselinck, Paris

Painter, professor of mathematics.

M. Esselinck's "Alma" sits on the Pont Sully-Morland, in the heart of the city. Asked for his arguments for "l'habitat fluviale," he replies: "Tres variable; prix d'atelier, prix d'apartement."

Esselinck's "Alma" is a very common canal barge, a "motor spits" (spits for pin-pointed), designed as a motor craft, 125-15 ft. long and wide, optimizing the use of lock sizes.

He claims that the ship is cheaper than a comparable house; however, he bought the boat for $8,000, and spent additional $20,000 on the restoration of the original art nouveau rosewood steering house and captain's space underneath, and the construction of a 75x15 ft. open living space (painted white), in the former cargo room, with glass panels as skylights.

The ship bottom needs maintenance every 7-10 years, which costs $2,000. On a trip, which he takes occasionally with wife and son, the engine needs 12 liters per hour or 100 liters per day.

"Such a boat needs two months of maintenance work per year and person," says Esselinck.
Gerry Wildschut, Ijsbaanpad, Amsterdam

Gerry and Ria Wildschut are post employees. They are 28 and 26.

Five years I am on this boat. I have lived on a boat all my life long; my parents had one too.

When married, we moved to Bijlmermeer. We didn't like it. We borrowed, got to a waiting place, finally decided to stay here. It's quiet. We can have our two cats and the dog. We practically live in the woods and still in the city. Our work place is near by, and it is cheap — 20,000 we paid for it. It's mobile too. I remember my father worked in the wharfs. He could take his home along when he changed towns.

It's comfortable here, but too small. It was worse before, we had everything in brick, red, a ceiling, red with yellow stripes. We got troubles with each other because we couldn't stand it any longer.
Constantly people are coming by asking for a free spot.

What else do you want? Laundry machine, central heating, but still under gypsie law. We still feel a little bit "out." We have to fight for public gas provision; 1200 guilders for the city for nothing. That's discrimination.

Everybody tries to help each other around here, with advice and in emergencies. Once I had planned to build higher and I told my neighbor about it. He said: I won't see the sun any more. So we didn't build up.

Or, there is the girl on the other side, a doctor for animals. One evening she just came over to apologize that she couldn't help our cat.

But there are also problems, like the bad neighbor. He isolates himself, kicks the kids away if they come too close. Another man we know had to move for career reasons.
Rudi Borst

Rudi Borst is his neighbor, who claims (consistently with Gerry) that his opposite neighbor is his best one. It seems that longer residents tend toward more differentiated and less euphoric comments about the neighborhood. Rudi Borst is 63, sick for 3 years already, unable to work. He used to work for KLM, was a gardener before that, but "never learnt actually anything." His wife refused to talk to me or let me in, which Rudi apologized for. He often sleeps outside in the small tent with his son, Rudi II, 11. His daughter is 19 and lives on the boat too. He says that a good relationship to one's neighbor is a must.
Johan Meinheer is an officer at the waterpolice. His wife, Anneke, works in a post office in Amsterdam. They are 26 and 25.

We couldn't find a house. It took too long after we came to Amsterdam. I bought this ship for 20,000 guilders, engine included. It was built in 1918, one of the first steel boats; it was converted in 1968. It has a 2,000 liter tank.

It's nice to sit outside on deck and have a coffee, then the one or the other neighbor or skipper comes by, really nice people, that live and work around here - 4 from the waterpolice, a carpenter, a doctorate student, a psychologist, a cameraman, a taxi driver, a social worker, and a barrel-organ player, and a skipper (he's the oldest; the rest are young). There are always different freight skippers around. They come by, talk about their work, their routes.

The people in the community over there, I know them, but they are all fairly old, around 40 or 50.

We don't pay anything here; the water doesn't belong to the city anymore; it's national water (Rijkswater).

There shouldn't be those flower pots on the boats, on many of the boats. People don't like to see that, only if it's very tidy.

Whenever the weather is nice we are away on a trip.

Maybe we will move, in 5 years or so.
Reinier Brouwer,
Brouwersgracht, Amsterdam

Reinier is 28 and works for the KLM.

Well, I took a couple of ideas together, it's a mixture of ideas. I am here for 2 years now. I wanted it to be aesthetically pleasing.

I was in another ship before, out on the Nieuwe Meer with two other guys. I was practically alone from 14 on; only my grandmother around, my father is an engineer in Singapore. Well, on that other ship we "tripped" a lot, stopped working on the boat. It's not very healthy for a long time if you are three guys that do nothing besides drinking. Finally we split.

I found this one, the bottom for 2,500 and worked on it for one year and a half. I'm still working. Now it's a steering house. I am busy with.

I have spent 10,000 guilders ($4000) in materials so far.
14-24 Slane\nWith a shroud\nLike to be out\nSo near fire\nAs possible\n(Lyse)
Nothing is better than to live on a boat. Nothing is better because I want to do a lot of things with it, unlike other boat people, travel for instance. It's something for my own.

Then I have freedom, no landlord, no neighbors. It's like a house on the country. I like to be outside; I use as much glass as possible. The windows are from the junkyard. You can build a whole ship from what you find in the garbage.

I painted it "Canal Green" (Grachtengroen) like all the barges and many of the doors around here, used dark brown as a supplementary color.

I pay 160 ($65) a year.

Maybe I sell it after finished building and buy a farmhouse.

For a while I am reading Chinese philosophies, but there is no relation to my boat life. Lao-Tse said: Don't build ships.

Comment from a landlubber neighbor, a middle-aged lady, sitting out on the stairs, reading, and sipping some orange drink:

I have lived for 4 years on a boat myself. Earlier this year something very striking happened in this canal — they took all the boats away, for some maintenance job. I was startled to see the canal completely cleared on a Sunday morning. No colors anymore, you know, the canal very wide and dull. Water needs ships to be something.

I think the people around here like the boats, at least they don't bother too much.

On the other hand, you know, some still think that on the boats sit only long-haired freaks (students).
Hanny and Ton Vogelpoel (43 and 45) own a small stationary and tobacco shop. Their sons, Haig and Mark, are 14 and 12. Their "boat" is a two-story house on concrete.

I like comfort. You know, for people that are not all that artistic it's more adequate to live on a thing like ours than on a converted barge (woonaak versus woonschip).

The reasons for moving to here: more space, the children can play better here, more freely; there is no traffic; it adds some movement; and finally, it's cheaper.

We live one year here now. We paid 70,000 for the boat, and spent another 30,000 on materials ($40,000 total).

most of the people are here already much longer.

We intend to stay here. At least until the boys are grown up. After all, you can't do that much anymore yourself, when you get old, you know.

It's also very close to work. Ton comes over at noon and I run the shop while he is taking a break.

It's really a close neighborhood here; we don't feel like newcomers, although
Hans en Ilja Dillo,
Herengracht, Amsterdam

Hans is 44 and a teacher of music theory at the Conservatorium; Ilja is 42 and a professional advisor. Their children, Daan and Okke, are 8 and 6.

Hans: I practice piano, clarinette, and saxophone. I need a place to practice without bothering anyone. I lived two months in an attic; it was terrible. I moved 11 years ago; decided to live on a boat.

I paid 11,000 guilders for the concrete bottom and a house on top ($4,400), added two other concrete parts for another 11,000, and finally built and changed, using materials worth an additional 10,000. Plus 2,000 for the change to gas heating.

The mooring fee is 50 guilders ($20) per month. This is almost the only legal mooring on this part of the canal.

I married Ilja; now we work 3 days per week each. A lot of friends are always around.
Ilja: It works fine with the children here. We disturb each other not very much; they play in the living room or are out on the water with their little boats. Of course, there is always a risk, but it's less dangerous on a boat with a life vest than on the street.

I want to stay here forever. I always miss a piece of land, some nature, but I like being in the center of the city. To have a real boat is o.k., but you have to choose for it. It's a life work. My husband loves sailing, but we like to do other things than working on a boat all the time. We make music, I have my own work.

It was a designing period of two years with phases of actual work on the holidays. I still remember Hans' drawings tacked to the ceiling. (He did practically all of the design part.)

Our neighbors here don't mind. We painted our roof for them, and bought a sculpture on top.
Comment of an old gentleman living on the ground floor exactly across the street:

No I don't find them disturbing. They are an essential part of the canals. I like them, the boats. I have never been on one.

For itself, it can be a perfectly adequate living form; look here in front of this house, they have got everything you could need, but that's an exception. I think the canals should be cleared of many junk boats, especially in the Heren, Prinsen, and Keizergracht, where the tourist boats come along. But if they look like my neighbor here, I don't mind having them around.

One thing is quite annoying: the postman jams all the mail for Mr. Dillo in my box because he has my address, this house number. This can be quite a pain. Sometimes they have a little concert over there; that I like.

No, I don't know what the other people think around here. I don't have too much contact, you know. Living out on the canal side is different that living to the back, a much tighter, more lively neighborhood forms there.

Comments of the owners of a house a bit further down, an old gentleman and a young woman, father and daughter, sitting out on the street:

No, if they look good, they don't annoy me, and if there are no prostitutes on them. I have never been on a boat, but my daughter has.

I don't want to have any in front of my door, and I have the city's agreement that none will appear there.

As long as they are not there they don't bother me.

There are people that want to get rid of all the boats. They think if there is a boat in front of your door, your house is automatically worth less.
I live on a boat because I think it's the only place where you can live in peace. You have to be really lucky to get along with your neighbors. There is just one family I actually know across the street. Some people complain about the flowers; most of them like it. I think I want to build a bench for old people out there. They are the only people that stop, the others are too busy. No, I don't know boat people better than others. Basically I live alone here, but there are a lot of guests. I work in the Melkweg three days a week, in the bakery. (The "Milky Way" is one of the larger Youth/Performance Centers.)
Charly and I, but mainly Charly, (Charly is a friend of Fox', and his architect. Both are from Germany, but usually talk in English, presumably not to get lost in a common world, also nobody else speaks German) built the back room in 1972, after having got the boat and totally rechanged the superstructure. There were also two fires, additional work. I paid construction helper, have access to a wood and a metal shop.

I have been on other places; this is alright. It's not a heavy neighborhood, you know, old area, other areas are disastrous, with their new buildings. The water I carry in buckets, but I plan to construct a tank out on the sidewalk.

You have to fix the boat up all the time, it's a house with 6 walls. We paint it once or twice a year, the sun, you know.
You have to build everything by eye measure, there is no way of using a level, for instance. The wood I get from a second-hand woodshop. They buy it from wreckers. The ceiling here used to be the floor of a sport hall. I use the color of the wood in arranging it.

Charly: The way the Dutch houses are built is insane -- large windows and no insulation.

Fox: Here I have the stove just on low flame all winter long; it's all double windows and good insulation.

We used the concept of the dividible space, with light screens and level changes.

What you learn at school. Forget it! I have never learned carpentry; all we had at school was metal working, awful. For instance, I had to
polish a candle stick for four weeks, with a hand file. I did it as badly as I could, because it had no sense.

This here is something different. I don't have to do it. I actually work even in metal again. I make stained glass windows, using lead and glass, with colored acrylic.

I don't want to look too freaky to the outside, a little bit of stained glass and flowers, that's it.

Life on a boat deepens/widens your consciousness, it gives you a closer contact to everything, shows relationships and dependencies.
Note: They discuss their design ideas, window constructions or domes, without drawings, only verbally and with gestures. Charly is fascinated by Fuller's Dymaxion houses. In this world full of imagination and anticipation they are nevertheless aware of the "interface problem" with the outside, the existence of subjectively experienced and perceived different levels of awareness, a problem they resolve by stating it explicitly and by quasi-working it into what they build.

Personally, I hardly saw another boat that was that consequent an expression of conceptual and thus physical growth and expansion. It is also an example that spaciousness is not directly correlated with the actual amount of space.

As stated by Fox, neither conceptuality nor physical skill are necessarily a function of traditional education. High school is as far as they got.

Comment from across the street: the house owner, a young lady in a wealthy apartment:

The boats don't bother me, as long as they are not completely rundown. I don't have any contact with them, nor to my neighbors in the house. I am working. I think that they like the boats in principle, there are no tensions. There used to be a real junk boat right here; it's gone. This one is o.k.
thank you

Heero Meindersma
Tilly Meindersma-van Dort
Corie en Leo
Beth Frey
Bulgar Finn
Ina Munck
Lisa Peattie
Donald Hickley
Job Hogeweg
Derry Sherensky
Ben Dennis
Jan Wampler
Dodi Rerrich
Frank Laufer
Sie en Kees Sjenitzer
Janneke Guermonprez
Jan Maarten Fideldij-Dop
Frank Ogden
Kevin Lynch
Emily Dawson
Muriel Cooper
Reinier Brouwer
Gerd Urhahn
Cor Goudriaan
Howard Droker
Otto Piene
Marian van der Wals
Maarten Kloos
Kees Hoekert
Rudi Borst
Tunney Lee
Gerry en Ria Wildschut
Hanny Vogelpoel
Fox and Charly
Helen en Willem Kwakkelstein en vrienden
John Habraken
Elfriede und Friedrich Droege
Jane "Cain" Robinson
Bob Kalloch
Technical Appendix

GENERATORS FOR FLOATING HOUSING

There are specific conditions that foster or constrain floating housing. Geographically, we find houseboats in all types of urban and rural waters: both salt and fresh, tidal and not, on shores, rivers, in bays, canals, and lakes — wherever there is adequate waterfront access. As we shall see later, most houseboats depend on the dry infrastructure, like all forms of housing that are not integrated into the workplace, as are, say farmhouses. Except in rare cases, houseboat dwellers commute to work on land. The majority of houseboats in the Western hemisphere are an urban phenomenon. The use of the waterway system for houseboats is restricted by its primary use for transport of persons and goods, as well as other, non-physical factors, which I describe in the City Case section of this report. For the rest, as common sense would tell us, houseboats like water with limited commercial traffic, little wave movement, and low stream speed, on spots protected from heavy wind.

The climatic restrictions are also few (given appropriate insulation and ventilation are provided), except for those self-imposed by uplanders who view the idea of living afloat in frosty, rainy, and windy climates and seasons unpleasant, associating houseboating with dry and sunny weather and holiday imagery. For centuries floating summer residences have been catering to a class that could afford the luxury of a summer home.

Physical factors that oppose houseboat settlements are noxious odors, severe pollution, microbes, insects and other dangerous or unpleasant creatures.
Floatation types

In America's Pacific Northwest, the prototype for houseboat floatation - its substructure - is the raft, used to transport lumbermen and logs downstream. Large cedar trunks from forest-fire areas were preferred because their sealed pores absorb very little water. To increase lifting force and to compensate for waterlogging over time, additional layers of logs were maneuvered underneath, sometimes building up a reverse pyramid of up to 15 feet.

Today, styrofoam kegs or steel drums that are sunk and then filled with air are used more and more.

The stringers, the lowest part of the superstructure, have to be replaced once a decade or so, depending on the quality of the wood and the water condition.
Europe's prototype houseboat is the ship (with the log as its ancestor). Most European floating homes are still constructed in and on former (mostly inland) waterway craft. Its largest traditional version is the French and Belgian "Motor Spits" of 120x15 feet.

Dutch barge types (sailing); frequently used as houseboats
Teekening J. Dooren, Dordrecht.
Depending on the depth of the hull (which today is made most often of steel), superstructures may or may not be necessary to create a dwelling. Some people claim that skippers themselves hesitate to re-use the former cargo space for living, preferring to build on top, even if there is enough cargo space for living.

More houseboat shells
A early Thames barge (swim-head type), in commercial use until 1930.
B Spritsail barge, in commercial use until 1960. Both types were occasionally converted to houseboats.
C Dutch motor barge, designed as such.
D the French/Belgian spits.
E Thames lighter, a motorless hull.
F narrowboat, originally man/horse-drawn, later motor-powered twin-boat, for more information, see London section (page 69).
G Small flat barge (Dutch), with and without engine.
It is interesting to note that, with two exceptions, all waterway craft visited in this report, were converted by their occupants in basically the same manner, responding to certain characteristics of the hull. They are entered from the rear end, where in most cases steering house/steering machinery is. Only a few owners of especially narrow ships created a second, usually more convenient entrance on the long side of their ship.

The entrance is followed by the kitchen, toilet, living room and sleeping spaces at the very front end (where often the beds for the skipper's servants were). This layout seems commonly accepted, even in cases where the boat's basic structure itself is too shallow to limit or suggest any specific organization.

There seems to be a common aim to keep the longitudinality of the boat intact. Bulgar's case is exceptional -- spatially and partially functionally. Atypically, he enters from the side; there is no connection from the steering house to the body of the ship. He breaks up the stretched space by introducing a series of walls perpendicular to the long axis of the ship. This introduces a functional, but not spatial, longitudinality, broken down again by the entrance at the middle of the long side of the "tjalk."

The Dutch "floating homes" usually are entered from the middle of the long side, reflecting the idea of a villa, facing dock or waterfront with accentuated entrance and symmetrically-structured facade. Here the traditional concept of what a door or window or wall means,
Hans Dillo's "Barrel"

Dutch housboats on steel floatations (1950's)
(above: V. Klingeren's De Witte Waalvis)

is recreated on the water. Ship dwellers substitute the formal language of a ship for that of a house to express the same functions.

This is an interesting point: how function-based and absolute is the formal language of a house, if it is so easily substituted by that of a ship? Adolf Loos declared that windows would be better placed on the roof, where they provide much better lighting. The roof is where many barge inhabitants place their windows to avoid interfering with the ship's shape. If they want more of a view than that available through the small portholes, they climb on the roof or up the mast.

Later, special industrial achievements, designed for more stationary work and housing shelters, were steel substructures, followed by the concrete (ferrocement) tub.

In the U.S., reinforced concrete is used in connection with styrofoam filling. The claim is that rough water would cause cracks and leaks of the cement hull; the foam keeps it from sinking.

The choice of substructure and infill reflects the "value system" of the inhabitant. Those concerned with environmentally sound aesthetics, and "boat purists" (generally younger people) prefer to use, and more and more restore, the original types. Interestingly, most of the original types in Amsterdam are found in the most "illegal" spots.
Houseboat Shells and Substructures

**First Column:** commercial vessel deep enough for habitation.

**Second Column:** flat steel vessel built either as commercial scow or, if chambers are closed, as houseboat floatation; concrete variations without and with styrofoam filling (designed for heavy water).

**Upper Right Corner:** superstructure, cut out and place on variations in second and third column.

**Third Column:** log floatation; Bulgar's log-plastic container combination; steel drums; and a steel floatation structure with bridging platform.
Ferrocement boat construction

Here are a few glimpses at M. Pronk's ferrocement boat construction site near Diemen, south-east of Amsterdam. M. Pronk is one of the four or five small ferrocement boat builders in The Netherlands; the annual output amounts to about 30-40 without superstructures, and 5-6 with them. He builds primarily floatations for selfbuilders. M. Pronk claims that all work beyond the mere skin of the superstructures is usually executed by the customer. A 15 x 5m tub is £15,000 ($7000); £70,000 ($30,000) with superstructure.

Specific maintenance of the hull is not necessary.
Barge bottom maintenance

The steel hull of a barge needs maintenance every two to four years, depending on the specific water condition.

Here are a few glimpses into a weekend on the small wharf of the Brothers Beffers (near Amsterdam's Wittenburgergracht).

Boat owners can scrape and tar the bottoms of their boats themselves here -- a do-it-yourself shop for house-barges. Still, costs run about $400.

The blond gentleman on the following pages, with the little hammer in his hand is M. Nap from Public Works. He issues housing permits for those who want them (independent of mooring licenses), on the basis of technical criteria, such as the thickness of the steel skin.
In reference to linear moorings, only a few words: the length of access bridges, walkways, etc. depends technically on steepness and depth of the underwater ground; how elaborate it is, on the condition of the edge. While a solid edge on deep water requires virtually no special access device (except in tidal waters and to bridge level differences), a soft soil edge on shallow water asks for some elaboration in securing and bridging.

Marina docks are very simple devices. Traditionally, the world over, they are wooden walkways on wooden piles driven into the bed of the particular water. Depth and dimension of foundation and the other structural parts depend on internal factors (width, height, length of the structure, kind of wood) and external factors (steam speed, wind, wave movement, type and condition of water; and number and mass of the moored vessels).
The illustrations show three versions: one simple; one with added utility lines; and three (one wooden and two of concrete) with integrated utility lines.
Dock construction can deal with tidal water in two ways: with structures that are either fixed high enough or floating. The fixed version has the following implications: the floating structures are moored at considerable distance from the dock, so the bridging ramp does not tilt too much at low tide. It would be possible, however, to arrange the ramp parallel to the dock and boat front, thereby reducing the boat-to-dock distance to the width of the ramp. This closeness might be unsafe in heavy waters, cast shadows, and create an unpleasant feeling in low tide.

A more intelligent solution is a floating dock, consisting of individual floats such as steel tanks or concrete hulls that are connected by shorter elements. The structure is aided by piles; the connection is loose in the y-direction.

The illustration shows a possible version for a steel roller element that can be bolted to the dock structure in a variety of ways (own design).
left: Clive Chambers’ project on floating docks for Rotherhithe, London
below: simple connection on a floating office in Vancouver's Coal Harbor
Sewage, services, etc.

The sewage treatment on a European houseboat is also apparently seen in the tradition of the inland waterway vessel: direct dumping in The Netherlands and France; holding tanks and chemical toilets in England.

The chemical treatment of human excrement is as damaging environmentally as massive dumping of raw sewage. Holding tanks are not designed for use over long periods of time; the rapid development of methane gas requires frequent discharging on specified spots, which is very inconvenient and not always feasible.

This report emphasizes the advantages of self-contained bio-degrading units, in limited use in the American Northwest, in "hi-tech" and "grass-root" versions.

Public sewer system hook-ups are in use in the U.C. [32] The effect of most public sewer treatment plants, however, is questionable, to say the least.

The illustrations show:

-- The Swedish system, Bio-Loo (developed by Clivus Multrum), used by Frank Ogden for his energy-conserving polyurethane settlement in North Vancouver.

-- The system used by Jane Robinson at Waldo Point, designed by "Appropriate Technology," USA.

-- An environmentalist suggestion by Austrian artist Friedrich Hundertwasser, who owns a houseboat in Vienna (recalled from an exposition in Munich '75). It is really a model; its proper functioning is in doubt; the transmission of the concept, the abstraction of the idea is more important here than the actual functioning.
Other waste water

Filters and holding tanks (for cooling before discharge) are recommended for detergent water from sinks, showers, etc.

Garbage collection

Garbage collection does not differ in principle from land-based housing. Linear moorings have containers for individuals or small groups. Marinas usually feature convenient public pick-up spots.

Mail delivery works similarly: individually on linear moorings, with collective facilities on marinas.

In Amsterdam, drinking water and soda barges are still in use.
Ordinance 800 of the city of Sausalito regulating houseboats

Seattle's Houseboat Ordinance, from 1968

Amsterdam's police regulation on houseboats, dated 1974


Information on Seattle's new "Equity Ordinance" against exorbitant fee increase and evictions (from Newsletter, January/February 1978)

Supplements...

Information on a commercial bio-toilet product.

Information on houseboat sewage and refusal treatment in England (courtesy of the Residential Boat Owners Association)
The City Council of the City of Sausalito does ordain as
follows:

Section 1: Definitions. For the purpose of this ordinance, the
words and phrases herein defined shall be construed in
accordance with the definitions set forth unless it is apparent
from the context that a different meaning is intended:

(a) Houseboat. Any watercraft or industrial or commercial
structure on or in the waters of the State, floating or
non-floating, which is designed or fitted out as a place of
habitation and is not principally used for transportation.

(b) Houseboat Marina. Any area within the City covered by
the waters of San Francisco and Richardson Bays where one or
more houseboats are moored and which area is zoned by
Ordinance No. 630 for the mooring of houseboats either
permanently or on a temporary basis.

Section 2: Houseboat Requirements. No person shall use or
occupy or permit the use of occupancy of a houseboat for
living quarters, either permanently or on a temporary basis,
within the City of Sausalito, except when established in a
specific location for which a Conditional Use Permit has been
issued pursuant to the Zoning regulations of the City of
Sausalito, and when such houseboat meets the following
additional requirements:

(a) Construction. Every houseboat shall be inspected and
approved by the Director of Public Works of the City of
Sausalito, the Sausalito Building Inspector, or any
individual qualified to render such inspection and duly
authorized by the City of Sausalito to do so for the problems
of buoyancy, windage, stability and structure, and for
compliance with this ordinance.

(b) Safety. Every houseboat shall be supplied with
life-saving equipment and extinguishers, access to circumfer-
ence of the houseboat, and adequate means of egress.

(c) Water Connection. Every houseboat shall have a secure
water connection above the waterline with an approved
tap device.

Section 4: New Construction Permits. No person shall
commence the construction, alteration or renovation of any
houseboat within the City of Sausalito, or move a houseboat
into the City of Sausalito, for use within the City of Sausalito,
until he has first obtained from the Building Inspector of the
City of Sausalito a permit authorizing such work. The fees for
such permits shall be based upon the rates established by the
Uniform Building Code. All and any work thereafter shall be
accomplished in conformance with the requirements set forth
in Section 2.

Section 5: Houseboat Marina Requirements. No person
shall rent or hold out for rent any site or space for the
establishment or location of a houseboat without having first
secured a permit from the City to do so. The following
requirements shall be satisfied before issuance of such permit:

(a) The owners and / or operators of any marina or water
area within the City of Sausalito upon which any houseboat is
proposed to be located shall furnish to the City of Sausalito
the following information:

1. The number of houseboats located or proposed to be
located within the subject marina.

2. A brief physical description of all such houseboats.

3. The names of the legal owners and their addresses of
all such houseboats.

4. The location within the marinas of all such
houseboats.

5. Such information required by Section 5, 1 through 4
inclusive, shall further be provided to the City of Sausalito
on an annual basis.

(b) Garbage. The owners and / or operators shall provide
enclosed garbage receptacles in an accessible location for the
use of houseboat occupants. No garbage, trash or refuse shall
be dumped into the waters of San Francisco or Richardson
Bays.

(c) Parking. The owners and / or operators shall provide off
street parking in accordance with the parking standards set
forth in the zoning regulations of the City of Sausalito.

(d) Mooring. The mooring plan of every marina should
achieve the best in personal safety and aesthetics for its
individual problems. All houseboats shall float at plus 5 feet
above Mean Low Low Water unless, upon Conditional Use
Permit review, a greater depth may be required should
surrounding uses so demand and require.

(e) Location. No houseboat marina shall be established or
developed except in compliance with all applicable zoning
regulations.
Section 3: Houseboat Permits. Any person desiring to maintain a houseboat within the City of Sausalito shall file with the City an application for a Certificate of Occupancy. Such Certificate of Occupancy shall not be issued unless the houseboat complies with the provisions set forth in Section 2, and the following requirements:

(a) Such craft shall be located in an appropriate zoning district.

(b) Payment of fees based upon the rates established by the Uniform Building Code.
ADOPTED JUNE 24, 1968

AN ORDINANCE relating to and prescribing minimum standards for the construction and equipment of floating homes, and establishing the utility of a system of connections with water service, sewer connections, and electrical connections, for floating homes used for residential occupancy and other floating home moorage, and declaring an emergency, as required by Chapter 350 of the Revised Code of Seattle as follows: (Ordinance No. 71318 of the City and County of Seattle as amended)

SECTION 1.040 ZONING REQUIREMENTS. Floating homes and floating home moorage shall conform to the limitations of the Comprehensive Zoning Ordinance of The City of Seattle (Ordinance 50200 as amended).

SECTION 1.050 LAND ACCESS. Floating home moorage shall have not less than twenty (20) feet of land frontage abutting a public street sufficiently improved for automobile travel and extending from thirty (30) feet and extending from the every floating home site in such moorage shall be connected to the water service outlet serving such floating home and such floating home shall be connected to the sewer connections and the required installations for the electrical connections for such floating home as required by the Electrical Code.

SECTION 1.160 NEW CONNECTIONS. Every floating home moorage site plan shall be subject to the limitations of this ordinance and shall be subject to the limitations of the Comprehensive Zoning Ordinance of The City of Seattle (Ordinance 50200 as amended).

SECTION 1.170 HOUSING STANDARDS FOR EXISTING FLOATING HOMES. Every floating home shall comply with the minimum housing standards as set forth in the Housing Code (Ordinance 65000 as amended) and all other applicable codes and ordinances regulating the design, construction, use and occupancy of such buildings and the required installations thereof.

SECTION 1.210 SEWER SYSTEM. Every floating home shall have a separate sewer system and such system shall be connected to the public sewer, as required by the Electrical Code.

SECTION 1.215 REPEAL. Ordinance 71318 entitled: "An Ordinance prescribing the minimum standards for the construction and equipment of floating homes, and establishing the utility of a system of connections with water service, sewer connections, and electrical connections, for floating homes used for residential occupancy and other floating home moorage, and declaring an emergency, as required by Chapter 350 of the Revised Code of Seattle as amended"

This ordinance shall take effect and be in full force and effect on the premises of the floating home moorage, shall be returned to the owner or operator.
SECTION 1.030 ZONING REQUIREMENTS. All floating homes and floating home moorage shall be located in accordance with this Ordinance prohibiting sewerless houseboats on Lake Washington with certain exceptions of a temporary nature: defining sewerless houseboats, and prescribing penalties for failure to comply. Ordinance 82233 entitled, "An Ordinance relating to the use of houseboats for habitation within the city limits and prescribing penalties for failure to comply," are hereby repealed.

SECTION 1.040 LAND ACCESS. Every floating home shall have not less than twenty (20) feet of land frontage abutting a public street sufficiently improved for automobile travel.

SECTION 1.050 MOORAGE WALKWAYS. Every floating home shall have a net width of not less than four (4) feet extending from land to every floating home site in such moorage.

SECTION 1.060 MOORAGE LIGHTING. Every floating home shall be illuminated by lights designed, constructed and maintained to provide a minimum average illumination of five (5) foot-candles of light intensity. Every floating home site, shall be equipped with such walking surfaces at any point on said walkway shall not be less than one-half (1/2) inch thick.

SECTION 1.070 FIRE PROTECTION. Every floating home shall be provided with a fire extinguishing equipment. Every floating home site in such moorage shall have a fire hydrant and shall provide fire extinguishing equipment as directed by the Fire Chief in accordance with the Fire Code (Ordinance 84500 as amended) and Building Code (Ordinance 84500 as amended).

SECTION 1.080 WATER SERVICE CONNECTIONS. Every floating home shall provide an above ground water service connection to an outlet connection at such floating home moorage. The water piping in every floating home shall be of appropriate material and shall provide water service piping, securely fastened and stabilized above water, and shall include a properly designed and maintained water service connection to an outlet connection at such floating home moorage. The water piping in every floating home shall be of appropriate material and shall provide water service piping, securely fastened and stabilized above water,

SECTION 1.100 SEWER INSTALLATION FEES. The fee for the installation of any sewer shall be the fee provided by law for the connection of the sewer service with the public sewer, and the necessary expenses of the public sewer shall be provided for.

SECTION 1.110 CONNECTION TO LOCAL SIDE SEWER SYSTEM. Every floating home shall be connected to the local side sewer system and such connection shall be made by the owner or operator of the floating home.

SECTION 1.120 SEWER INSTALLATION. Every floating home shall be connected to the local side sewer system and such connection shall be made by the owner or operator of the floating home.

SECTION 1.130 PLUMBING SYSTEMS. All plumbing and plumbing systems in every floating home shall meet the requirements of the Building Code (Ordinance 84500 as amended) and Building Code (Ordinance 84500 as amended). The director of Public Health in accordance with said Plumbing Code shall require the installation of any sewer which is relocated from its original site of connection and such requirements shall be such as to comply with the requirements of this Ordinance.

SECTION 1.140 GARBAGE DISPOSAL. Every floating home shall provide adequate garbage storage and collection facilities which shall be located in an accessible place on the site and not more than five (5) feet from a dwelling.

SECTION 1.150 ELECTRICAL SERVICE AND EQUIPMENT. Every floating home shall provide electrical service to floating homes and floating home moorage, and such service shall be provided as approved by the building inspector.

SECTION 1.170 SUPERINTENDENT. Every floating home shall be subject to the limitations of the Comprehensive Zoning Ordinance of the City of Seattle (Ordinance 82230 as amended).
WIJZIGING ALGEMENE POLITIEVERORDENING.

Burgemeester en Wethouders van Amsterdam brengen ter openbare kennis, dat de Gemeenteraad bij zijn besluit van 28 augustus 1974, no. 811, heeft vastgesteld de volgende

Verordening tot wijziging van de Algemene Politieverordening, vastgesteld bij raadsbesluit van 8 juni 1955, no. 655 (Gemeenteblad 1955, afd. 3, volgn. 129), zoals deze laatstelijk is gewijzigd bij raadsbesluit van 16 januari 1974, no. 1370 (Gemeenteblad 1974, afd. 3, volgn. 57).

Art. I
De artikelen 139, 139A, lid 2. en 146 vervallen.

Art. II
Opgegenomen worden onder hoofdstuk II, afdeling III, de artikelen 139, 141, 141A, 141B, 141C en 141D, onderscheidenlijk luidende als volgt:

Art. 139
1a Onder woonschip wordt verstaan: een vaartuig, hoe ook genaamd en van welke aard ook, uitsluitend of hoofdzakelijk gebezigd als of bestemd tot woon- of nachtverblijf van een of meer personen.
Onder woonschip wordt mede verstaan een woonschip in aanbouw, alsmede een casco, dat tot woonschip kan worden opgebouwd of verbouwd.

b Onder pleziervaartuig wordt verstaan: een vaartuig, dat uitsluitend of hoofdzakelijk is bestemd tot of wordt gebruikt voor recreatief verblijf dan wel voor het beoefenen van de watersport.

c Onder bedrijfs- of bergvaartuig wordt verstaan: een vaartuig, hoe ook genaamd en van welke aard ook, dat wordt gebruikt als of is bestemd tot opslagruimte en/of voor de uitoefening van enig bedrijf dan wel uitsluitend of hoofdzakelijk voor de uitoefening van enig beroep en daartoe niet behoeft te varen.

d Onder stationerend vaartuig wordt verstaan: een ander dan de onder a tot en met c bedoelde vaartuigen, dat niet tot de vaart wordt gebruikt.

2. Onder woonschepen, pleiziervaartuigen, bedrijfs- of bergvaartuigen of stationerende vaartuigen worden mede verstaan:

a die vaartuigen, bedoeld in het eerste lid, die tijdelijk of blijvend de mogelijkheid en/of geschiktheid om te varen hebben verloren;

b de overblijfselen van de in het eerste lid bedoelde vaartuigen.
Art. 141

Het is verboden met een woonschip of pleziervaartuig een ligplaats in te nemen of te hebben op door Burgemeester en Wethouders bij openbare kennisgeving aangewezen plaatsen.

Art. 141A

1. Het is verboden een woonschip te bouwen dan wel een vaartuig tot woonschip te verbouwen of op te bouwen.
2. Het bepaalde in lid 1 geldt niet voor degene aan wie Burgemeester en Wethouders een verklaring hebben verstrekt, dat tegen het bouwen, verbouwen of opbouwen geen bezwaar bestaat. Burgemeester en Wethouders verstrekken deze verklaring, indien te hunnen genoegen is aangetoond:
   a dat het woonschip in voltooide staat, uiterlijk twee maanden na de voltooiing van de werkzaamheden, binnen de gemeente een legale ligplaats zal krijgen dan wel de gemeente zal verlaten;
   b dat het woonschip zal dienen ter vervanging van een woonschip, mits het te vervangen woonschip binnen twee maanden na de vervanging binnen de gemeente een legale ligplaats zal krijgen, zal worden gesloopt of aan de gemeente zal worden afgestaan dan wel de gemeente zal verlaten.

Art. 141B

1. Het is verboden een woonschip binnen de gemeente te brengen.
2. Het bepaalde in het eerste lid geldt niet voor degene aan wie Burgemeester en Wethouders een verklaring hebben verstrekt, dat tegen het brengen van het woonschip geen bezwaar bestaat. Burgemeester en Wethouders verstrekken deze verklaring, indien te hunnen genoegen is aangetoond:
   a dat het woonschip op doorreis niet langer dan zeven dagen binnen de gemeente ligplaats inneemt op een door of namens de havenmeester of de directeur van de Sluis-, Brug- en Havengeld-dienst aangewezen plaats. De periode van zeven dagen wordt verlengd met het aantal dagen, waarop wegens de toestand van het vaarwater of van het weer de reis niet kan worden voortgezet.
The Housing (Homeless Persons) Act, which came into force on December 1, includes the occupier of a houseboat who has been, or is about to be deprived of his mooring as a homeless person whom local councils will have a duty to assist.

The Act also places other obligations on councils to recognise refusal of access to one's home as homelessness, and to take steps to protect the property of those who are subject to eviction proceedings. It also prescribes courses of action to be taken where the person threatened with homelessness is not protected by the rent acts.

The newly-formed RBOA legal sub-committee will be studying the implications of these and other points to determine how residential boat owners are likely to be affected.

**Entitlement**

The relevant section of the Act defines as homeless someone who has accommodation but cannot use it because:

"he cannot secure entry to it. This includes those who have a legal entitlement to accommodation to which, for some practical reason, they are unable to secure entry - such as illegally evicted tenants or occupiers who for some reason cannot immediately be restored to occupation of their homes."

"he has a mobile home, caravan, or house-boat etc, but has no place where he is entitled or permitted to put it or moor it and live in it."

The Code of Guidance issued to local authorities to explain the workings of the Act points out that: "where people are homeless because they have a caravan or house-boat but no site or mooring for it the housing authority are not obliged to make equivalent accommodation available."

This means the council does not have to provide another caravan or house-boat, but will probably begin its task by trying to find another site or mooring. Failing this, it has a duty to secure alternative accommodation for the occupants.

**Priority needs**

The Act identifies certain groups who have a priority need for rehousing. One or more living with flood, or a: who are above age or appr. those who are of infirmity, infirm, or p. Those at risk - women and p. priority cases.

The newly-formed RBOA legal sub-committee will be studying the implications of these and other points to determine how residential boat owners are likely to be affected.

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"he cannot secure entry to it. This includes those who have a legal entitlement to accommodation to which, for some practical reason, they are unable to secure entry - such as illegally evicted tenants or occupiers who for some reason cannot immediately be restored to occupation of their homes."

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This means the council does not have to provide another caravan or house-boat, but will probably begin its task by trying to find another site or mooring. Failing this, it has a duty to secure alternative accommodation for the occupants.

Priority needs

The Act identifies certain groups who have a priority need for rehousing. One or more living with flood, or a: who are above age or appr. those who are of infirmity, infirm, or p. Those at risk - women and p. priority cases.
the Act defines accommodation as no place where it is
meant to put it."

Issued to local the workings of: "where
use they have ut no site

non available."

not have or house-gin its
other site it has a

accommod-

rehousing. These include people with
one or more dependent children living with them, victims of fire,
flood, or a similar disaster, those
who are above the normal retirement age or approaching retirement, and
those who are vulnerable by virtue of infirmity, mental illness, handicap, or physical disability.
Those at risk, including battered women and pregnant women, are also
priority cases.

The duty of a housing authority to secure accommodation covers those
who are already homeless and those
who are threatened with homelessness; this is taken to mean those likely
to become homeless in 28 days.

The need for early preventative action is stressed in the Act so as
to ensure that assistance is offered
to those where a threat of homelessness is known more than 28 days in
advance.

Local connections

Before accepting responsibility for
providing permanent accommodation the
council must be satisfied that the
appellant has a local connection, whether as a result of residence, employment, or other circumstances, and whether or not he became homeless intentionally. The instructions from the Department of the Environment to local authorities on this last point are particularly detailed and set out a number of criteria which must be satisfied before a person can be accused of becoming homeless deliberately.

Other sections of the Act call on a
local authority to take, in certain circumstances, reasonable steps to
prevent loss of or to prevent or
mitigate damage to the personal
property of a homeless person because he is unable to protect or deal with it.

The Code of Guidance also points out, under the heading "Prevention", that
where it is clear that tenants have
no defence or counterclaim to an
application for possession because
they are not protected by the rent
acts, it might cause hardship if
the authority insisted, as is
usually the case, that a court order
was obtained, and a date for eviction
set, before agreeing to help a
tenant.

It is therefore suggested in the
Code of Guidance that, in cases
where it appears that "an occupier"
has no defence against a possession
order, the landlord should be asked
to produce(or obtain from his
solicitor) a letter of intent to
seek possession, with suitable docu-
mentary backing and an explanation
of the grounds on which he is
proceeding.

The Code of Guidance, which explains
the key provisions of the Act and how
they ought to be applied, is available,
price 70p, from Her Majesty's Station-
ery Office, or from Leading booksellers.

Questions of law raised in this
article are not claimed to be author-
itative. Editor.
Enactment of the Floating Homes Equity Ordinance has made available to houseboat owners significant new protections with respect to evictions and moorage fees. Primary responsibility for implementing the protective provisions of the Ordinance rests with houseboat owners themselves. Affirmative enforcement by the City will be limited. For this reason it is important that houseboat owners know what specific protections are provided under the Ordinance and what procedures should be followed if and when those protective provisions are needed.

As to the specific substantive provisions of the Ordinance, each houseboat owner should take the time necessary to carefully review the entire text of the Ordinance. Particular attention should be paid to the limitations on evictions set forth in Section 2 and the relevant factors for determining reasonableness of moorage fees in Section 6. Special attention should also be given to Section 10 which obligates a floating home owner to advise both the moorage owner and prospective renter or purchaser if a floating home is rented or sold.

The procedural steps and considerations are less clearly defined in the Ordinance. What follows is a brief outline of suggested considerations and recommended steps to be followed if you believe that the eviction provisions of the Ordinance are being violated or that an unreasonable fee increase has been demanded.

**UNLAWFUL EVICTION ACTIONS**

1. It is now unlawful for a moorage owner to give notice to a floating home owner to remove his or her floating home unless the reason for removal is justified under one of the six lawful reasons for eviction set forth in Section 2 of the Ordinance.
2. If you receive a notice to vacate your moorage site, ask the moorage owner to identify the reason for the notice.
3. If the moorage owner fails to give a reason, or if the reason given does not fall within one of the six lawful reasons of Section 2, or if the reason given is not justified by the facts, you should notify the moorage owner that the notice to vacate constitutes criminal violation of the municipal code and request a written revocation of the notice.
4. If the moorage owner refuses to revoke the notice, and if you believe that Section 2 of the Ordinance has been violated, you should file a complaint with the City Attorney.
5. If the moorage owner files, or indicates that he will file, a formal eviction action in Superior Court, you should seek legal counsel without delay. In the eviction proceeding, the burden will be on the moorage owner to establish that eviction is justified under one of the six lawful reasons enumerated in Section 2. If the moorage owner fails to meet that burden, the eviction action will be subject to dismissal by the court.

**FACT-FINDING:**

**UNREASONABLE MOORAGE FEE INCREASES**

1. Determine whether the increase is reasonable. Don't assume that every moorage fee increase is unreasonable. In making a determination, review each of the eight factors which will be considered by the fact-finder pursuant to Section 6 of the Ordinance. The Floating Homes Association will be able to provide information as to comparability of moorage fees on other docks and increases and decreases in the Consumer Price Index for residential rents in Seattle.
2. Consider the costs of fact-finding. The filing fee for a Petition for Fact-Finding is $25. The fact-finder's fee, which can run to $500 or more, is paid by the parties. In most cases the fact-finder's fee will probably be split between the petitioner and the moorage owner. However, the fact-finder has authority to assess the entire cost against any party if, for example, it is determined that the moorage owner has been wholly unreasonable or that the houseboat owner has filed any frivolous Petition.
3. If you determine to request fact-finding, a Petition must be filed within fifteen days of the date when you were notified of the moorage increase. The Petition should be filed in person or by certified mail with the Mayor's office or with the Department of Community Development, which has been designated by the Mayor to process the petitions. Each Petition requires a filing fee of $25, and so it is advantageous for similarly situated houseboat owners to join as joint petitioners on a single Petition wherever possible. Joint filing will spread the cost of the filing fee and the fact-finder's fee.
4. Form of the Petition. There is presently no established format for a Petition for Fact-Finding. A letter to the Mayor or to the Department of Community Development will be sufficient as long as the letter contains at least the following:
   - (a) Name, address, and signature of each petitioner;
   - (b) Name and address of the moorage owner;
   - (c) Identification of the moorage increase or increases and a statement that each petitioner believes the applicable increase is unreasonable; and
   - (d) A specific statement that the letter is intended as a Petition for Fact-Finding. The $25 filing fee must accompany each Petition.
5. Moorage fee during the fact-finding process. If a timely Petition is filed, the moorage fee increase is not effective during the fact-finding process. The moorage owner, however, can retroactively recover the increase, or any portion of the increase, later determined to be reasonable by the fact-finder.

6. Disqualification of the fact-finder. A fact-finder appointed by the Mayor may be disqualified by either party, if the party believes he or she will not receive a fair hearing from the appointed fact-finder. Only one such qualification is available, however, to each party.

7. Presentation of evidence and argument. Although the burden will be on the moorage owner to present evidence demonstrating the reasonableness of the increase, the petitioner should be prepared to present evidence in argument to the fact-finder which establishes that the moorage increase is not justified. Petitioning houseboat owners should at minimum be prepared to offer testimony as to comparable moorage rates, the condition and state of repair of the dock, and the quality of services and maintenance.

It should be clearly recognized that the fact-finder's determination is nonbinding. The City Council amended the Floating Homes Association's ordinance proposal to substitute the moral suasion of the public fact-finding process for the mandatory arbitration proposed by the Association. Members of the Council have indicated that if moral suasion proves to be an insufficient deterrent, the Ordinance will be amended to make the fact-finder's determination binding.

If, however, a moorage owner continues to demand payment of the increased moorage fee despite the fact-finder's determination that the increase is unreasonable, the increased fee must be paid. Failure to pay the increase may subject the houseboat owner to eviction for nonpayment of moorage fees pursuant to Section 2(1) of the Ordinance. If disregard of fact-finding determinations by moorage owners occurs, appropriate amendments to the Ordinance will be proposed to the Council by The Floating Homes Association.

***

(Attorney Bruce Corker is a member of the Association and served as legal counsel in drafting the original Equity Ordinance and during the time it was under consideration by the City Council.)

Information on Seattle's new "Equity Ordinance" against exorbitant fee increase and evictions (from Newsletter, January/February 1978)
Houseboats Costs

At present most houseboats are conversions or adaptations of conventional boats; few are purpose built.

From a recent survey of houseboats for sale:

- Houseboats for sale at £80 per linear foot
- New canal boats, fully furnished are £150 per linear foot
- Conventional (wide beam) houseboat £5 per square foot
- Narrow beam (6'10") canal boat £12 per square foot

By comparison, conventional houses now cost above £14 per sq. ft. to build.

Unlike houses most houseboats are bought for cash and thus make less demand on banking resources. The cost of insurance is high - between £80 and £100 per annum, but in many schemes houseboats are specifically excluded.

Houseboat dwellers do pay rates. Either directly, if they are fortunate enough to own the adjacent land; or indirectly as an element of their mooring fees.

Services such as waste & refuse disposal and postal delivery are usually centralised - thus are cheaper to provide. Typically the “Area population density” of houseboats is about twice that of conventional town housing. Hence other services such as water, electricity and telephones are cheaper to lay on; in that the greater density implies shorter runs of piping and wiring.

When compared with conventional housing, built on land liable to flooding as at Thamesmead, houseboat foundations, i.e. the hull, are competitive. In short houseboats occupy land which is unsuitable for other use apart from mooring other “weekend” boats.

For the future, if houseboat development was encouraged to expand, instead of being restricted as at present. Large numbers of people could be housed in “flat afloat” type houseboats, both in marinas and along the waterways at low cost.

For example: a flat afloat suitable for two people might weigh a total of 12 tons, and be constructed on a pontoon 40ft x 12ft wide x 18" deep.

As follows:

<table>
<thead>
<tr>
<th>Material</th>
<th>Weight of Pontoon</th>
<th>Construction costs</th>
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</thead>
<tbody>
<tr>
<td>Steel 7&quot; thick</td>
<td>2.8 tons</td>
<td>£1,500</td>
</tr>
<tr>
<td>Aluminium 3/16&quot; thick</td>
<td>0.75 tons</td>
<td>£1,000</td>
</tr>
<tr>
<td>Plywood 1&quot; thick</td>
<td>0.75 tons</td>
<td>£650</td>
</tr>
<tr>
<td>Glass fibre 3/16&quot; thick</td>
<td>1.25 tons</td>
<td>£1,500</td>
</tr>
<tr>
<td>Ferrocement 3/&quot; thick</td>
<td>7.00 tons</td>
<td>£2,500</td>
</tr>
<tr>
<td>Solid Polyurethane Block 18&quot; thick</td>
<td>0.70 tons</td>
<td>£1,000</td>
</tr>
</tbody>
</table>

The superstructure itself might cost between £2,000 - £5,000 depending on specification and layout.

In conclusion, houseboats provide a form of inexpensive alternative housing which make modest demands on resources; and could in future make an even greater contribution to the national housing stock at low cost. It is perhaps sobering to realise that to re-house the present houseboat population would cost in the region between £75 - £100 million.

Bernard Carr

SEWAGE - THE PROBLEM

For this purpose sewage is defined as sink/bath/shower waste & human excrement.

If sewage is not disposed of in a safe manner it can easily become a health hazard. Many diseases can be spread through direct contact with sewage or through the medium of animals, flies and insects, which will carry disease to food & clothing. Improper disposal may also cause contamination of water supplies and spread disease. For efficient disposal from houseboats sink/bath/shower waste should be treated separately from toilet waste.

SEWAGE - THE SOLUTION OF THE PROBLEM

Toilet Waste: At present there are three possible methods of disposal of toilet waste. The first (and usually prohibited) is the direct discharge of crude waste from a sea-toilet into the river. The second is the chemical closet which when used in the proper manner is a good method of disposal. The contents of the chemical closet should neither be discharged into the river nor buried anywhere near a river, the only acceptable method of disposal is at a purpose built disposal point which is either connected to the local sewerage system or well maintained cess-pit. The third is disposal from holding tanks.

In future it is possible that Water Authorities will make it compulsory for boats to discharge their toilets into these tanks. It must be said now that for houseboats this is most unsuitable. It is only satisfactory when the waste is held for short periods i.e. 24 hours, and is therefore only suitable for pleasure boats.

The dangers of holding tanks for houseboats.

Consider what would happen if houseboats had holding tanks & they were emptied at intervals of between 1 and 2 weeks.

Depending on the type of tank, decomposition occurs in one of two ways. If the tank is closed, then the sewage would quickly become septic. Large quantities of methane gas would be produced together with a number of compounds with objectionable odours e.g. hydrogen sulphide, plus some organic solids. A build up of gasses in any closed container is dangerous, & if there was an accident the foul discharge into the water would be far worse than fresh sewage. If the tank is vented the products of decomposition are different, there would be no build up of gasses but there would be a foul odour discharging into the air from the vent. Even more important there would be the accessibility of flies & insects through the vent & this could very easily result in the outbreak of any one of a number of infectious diseases. It should always be remembered that the human intestines can carry a great many harmful organisms.
POLLUTION

For hundreds of years man has regarded watercourses as the natural depository of refuse & sewage. Until the early nineteenth century the rivers remained reasonably free from pollution, except near the rapidly growing towns. This apparent lack of pollution is due to the fact that flowing waters will undergo a self-purification process in which inorganic matter is diluted or deposited & organic matter is oxidized.

Pollution is the presence of unnatural substances which have an adverse effect on the river. It can take any of the forms listed below:

1. Physical - colour, turbidity, temperature, froth, radioactivity.
2. Physiological - taste, odor.
3. Biological - the encouragement or suppression of algal growth; the presence of unnatural/harmful organisms.
4. Chemical - organic e.g. fats, sewage, various industrial wastes, inorganic e.g. traces of metals, salts, acids & alkalis, various industrial wastes.

The particular sources relevant in this context are refuse & sewage.

REFUSE - THE PROBLEM

From observation over several years we see that the refuse which finds its way into the rivers takes the form of garden waste, empty cans or bottles, paper wrappings & tree trunks. It is interesting how much of this refuse suddenly appears on the first sunny weekend in the year and continues throughout the summer months. The inference is, of course, that casual users of the rivers and canals cause the majority of this nuisance, and the property owners whose land forms the banks are also responsible, while houseboat owners who are on the river all year round are often blamed.

REFUSE - THE SOLUTION OF THE PROBLEM

The solution depends on the sources of the refuse. Casual river users should be educated to realise that it is wrong to throw waste into rivers; all pleasure boat moorings should be compelled to provide adequate dustbins. In fact, pleasure boat owners have no excuse for this type of pollution; they can either take their refuse home with them or leave it at one of the many disposal points provided by the relevant Water Authority. Property owners have two excuses - ignorance and laziness. The Water Authorities should be educating these people.

The point has been made that houseboats add little nuisance in this manner - it is fairer to say that residents actively remove refuse since it is in their interests to do so. Tree remains in particular can damage their homes. For boat dwellers there must be at every mooring an adequate (i.e. one per home) number of dustbins, which the local authority has a statutory duty to empty.

Emptying the tanks

Emptying these tanks would cause a problem, they would have to be pumped out & this would involve the possibility of accidental human contact - it would have to be carried out by specialised operatives. If the local sewer was too far then the waste would either have to be transferred to 'gully emptying' type vehicles or specialised 'sewage boats.' Both expensive alternatives.

Sink/Bath/Shower Waste: This type of waste is generally warm, frothy and contains some grease or fat. Although not harmful to health it is moderately harmful to the river. It is quite acceptable that this waste could be held in a storage tank prior to disposal. The temperature would quickly reach that of the river, leaving froth and grease mainly to be dealt with. It is quite possible that a chamber could be included within the holding tank whereby the waste could be treated prior to discharge. This requires development and manufacture by industry and approval by the Water Authorities. Otherwise it would need to be pumped out, either direct to the nearest sewer or into a gully emptying vehicle.

SUMMARY

For houseboats the prevention of pollution in rivers and canals is not an insurmountable problem. For refuse disposal each houseboat should have its own dustbin which would be emptied by the local council.

For sewage disposal it depends whether it is toilet or sink/bath/shower waste. Toilets should be chemical closets which are emptied at proper disposal points. Holding tanks for toilet waste are unacceptable. Sink/bath/shower waste should be held in tanks & possibly treated prior to discharge. Only in a few circumstances would emptying these tanks be difficult. It is often the simplest solution which is the most effective.

References


Information on houseboat sewage and refusal treatment in England (courtesy of the Residential Boat Owners Association)
Information on a commercial bio-toilet product.

For more economic solutions contact your local Appropriate Technology post.

... (text continues)
Notes

1. Lex van Drooge and Jeroen Verhulst: "Woonschepenbeleid: een aanvaardbare woonform moet toch verdwijnen, Wonen-TA/BK, p.9 (see also footnote 3)


5. "Floating Subdivision", in Professional Builder & Apartment Business, February 1977

The Bank of Montreal told one Vancouver houseboater asking for a loan: "Living in a housboat is an alternative life style, and banks do not support alternative life styles."


More interesting citations:

"In the course of social evolution institutions proliferate and specialize. The movement is a double one in which increased social control makes possible greater technical developments and the latter opens the way to increased social control again. Finally, we find ourselves in the modern world where economic interdependence is carried to the highest pitch reached by mankind so far. One inevitable by-product is social awareness, self-consciousness about the processes of communal life. And with differentiation go special forms of social
coercion, special monetary incentives to conform, special types of punitive sanctions, specialized police and overseers and progress men scanning our performance, and so on, a whole paraphernalia of social control which would never be conceivable in small-scale undifferentiated economic conditions."

[p.111]

Obvious question: What is progress? A linear development? Uninfluenced by conscious preferences?

"Granted that disorder spoils pattern; it also provides the materials of pattern. Order implies restriction; from all possible materials, a limited selection has been made and from all possible relations, a limited set has been used. So disorder by implication is unlimited, no pattern has been realized in it, but its potential for patterning is indefinite. This is why, though we seek to create order, we do not simply condemn disorder. We recognize that it is destructive to existing patterns; also that it has potentiality. It symbolizes both danger and power." [p.114]

"Where there is no differentiation there is no defilement." [p. 189]

"Purity is the enemy of change, of ambiguity and compromise...The final paradox of the search for purity is that it is an attempt to force experience into logical categories of non-contradiction. But experience is not amenable and those who make the attempt find themselves led into contradiction." [p. 191]

On witchcraft:
"Witchcraft is...institutionalized jealousy. The accusation is itself a weapon for clarifying and strengthening the structure. It enables guilt to be pinned on the source of confusion and ambiguity." [p. 120]
"(Witchcraft) would be the anti-social psychic power with which persons in relatively unstructured areas of society are credited, the accusation being a means of exerting control where practical forms of control are difficult." [p. 124]

7. As a reference, see the direction the Dutch legislation takes. (Practical prohibition of holiday trips with the boat) In Sausalito, part of the argument against the new development is the impending fixation of the individual dwelling along a linear dock that would exclude the possibility of rearrangement and adaptation through movement. The reason is profit, profit-oriented docks exclude mobility in the sense of user-initiated free rearrangement through the rigidity of lot-subdivision and hardware, as well as by an isolative developer-client relationship that cannot foster a sense of community and interaction. This is often reinforced through additional disciplinary rules, as in the new Sausalito developments where no children are allowed, for insurance and liability reasons. It is a well-known mechanism. The idea of a functioning community is dismissed, creating the need for outside services that the group of individuals -- as a non-community -- is unable to provide for itself: developers, real estate brokers, architects, builders, insurance companies, security hardware, and police.

8. In a well-functioning community, with eyes and ears on the water, are these dangers even more reduced than in the average suburb. Sausalito occupants constantly listen to the "splash," and those fires that did occur were extinguished before the public firefighters arrived. This information stems from interviews with boat- oldtimers in Sausalito ("funny to see all these naked men in the middle of the night running back and forth with water buckets").


12. When Lake Union, Seattle, used to be a low-cost community, which in this case is synonymous with "before the sewer installation," one of the prime arguments against houseboats always was the water pollution issue, quite unconvincingly, since almost 100% of the pollution was due to dumping of raw sewerage by city outlets. Frank Ogden installs successfully bio-degrading toilets, a Swedish patent for $800 a piece, decomposing the feces of a family of four, through electrical stirring and ventilation, within one year to a small amount of fertilizer. (Clivus Multrum's Bio-Loo, see Supplements.) Handmade versions of the same system, featuring old drum, hand-stirring device, and bicycle pump, are in use on about 40 boats in Sausalito. Ironically, officials and developers force the hook-up to city sewer lines, which periodically dump unprocessed sewer back into the bay, as in the times of heavy rain.

The point is that, obviously, the issue of attack is not pollution, since houseboat dumpings are either negligible, or technical solutions, especially low-cost "appropriate-technology" ones, are feasible, be it the connection to the traditional, technologically obsolete public sewer system, the environmentally unfavorable chemical toilets, or the bio-degrading, self-contained units described above. It is really the houseboats as such that have been objected to.
13. Quote from boat-owner Peter Hakkenberg, in Amsterdam (see page 108).


15. Communal Service Public Housing Amsterdam: "Ik moet naar een kleinere woning omzien, want mijn gezins wordt te groot" (125 Years Social Housing Construction in Amsterdam), p. 10, 11, 20ff., the first five images in the Amsterdam part are adopted from this and the following source.


17. Information from an interview with M. Huyer from the Amsterdam Police Department, summer, 1977


20. Ir. C. F. Schuurman, Sewerage Dept.: "Amsterdam-Canals and Sewerage."


T. Chaplin, _Short History of the Narrow Boats_, Shepperton, 1974.


Birmingham Canal Navigation Society, _"Canal Boats."_

25. Information from personal interviews and the brochure _Jantzen Beach on Hayden Island, Portland's City on the Columbia, A Great Place to Live, Shop, and Play._


27. Vancouver City Planning Department, _The Aquatic Community, Main Part and Summary_, July, 1977.

28. "A City survey in 1938 revealed certain houseboat statistics: population ever-growing. More than two hundred houseboats at present. Some four-hundred-fifty adults and one hundred children. No sewage facilities. Few direct water connections. Only 77 light connections. Remarks: the people contacted seem contented and happy; most of them expressed satisfaction at living on the waterfront and a desire to remain there. There was apparently no sickness anywhere! Even though houseboaters were happy, the Vancouver City Fathers were anxious to be rid of them. Sewage facilities were improper, the city couldn't collect reven-
ues for water and electricity, and the house-
boaters used schools and hospitals without
paying taxes. Even the Truant Officer who
forced houseboat children to class wasn't
subsidized by floating families!" from Ben
Dennis and Betsy Case, Houseboat, Reflections
of North America's Floating Homes, Smuggler's


31. Hayden Island houseboat moorage north of Port-
land has its own treatment plant. Seattle's
houseboat organization developed an apparently
well-functioning and pioneering hook-up sys-
tem to the public ring line on Lake Union.
Sump pumps are usually needed, especially in
tidal waters.

32. Note: The following documentation of per-
sonal statements is the result of casual
interviewing in Europe (summer 1977) and
North America (Christmas 1977). Although
the intention was to reproduce the comments
as accurately as possible, considerable
editing nevertheless took place.

Mistakes in my notes, translation, and
editing are therefore possible, if not
probable.
Bibliography

This is a selected bibliography, in selected topics; see "Notes" for more specific or text-related publications

References on Dutch barges

W. Kuyper: Woonschepen (classic work on barge conversions)
P.J.V.M. Sopers: Schepen die verdwijnen (on traditional barges)
M. Seghers and R. de Bock: Schepen op de Schelde (specific references on barges and boats typical for the river Schelde)
P. le Comte: Schepen en vaartuigen in verschillende bewegingen (general work on barges and other waterways craft)
E. van Konijnenburg: Der Schiffbau seit seiner Enstehung (standard reference in several volumes on ships and boats in chronological order, also in English)

For further references contact the bookshop in the Scheepvaartmuseum, Amsterdam, Kattenburgerplein 1.

References on English inland waterways and -craft

D.J. Smith: Discovering Craft of the Inland Waterways, Aylesbury, 1977
T. Chaplin: Short History of the Narrowboats, Shepperton, 1974
P.L. Smith: Canal Barges and Narrowboats, Aylesbury, 1975
Birmingham Canal Navigation Society: Canal Boats

For further references contact the Inland Waterways Association (IWA), Regents Park Road, London W1
Houseboat history

Howard Droker: Seattle's Unsinkable Houseboats, Seattle 1977
W. Kuyper: Woonschepen

Recent picture books (in the style of "Guide to the Woodbutcher's Art")

Ben Dennis/Betsy Case: Houseboat, Reflections of North America's Floating Homes, Smuggler's Cove Publishing, Seattle 1977
Mark Gabor, New York, presently prepares a global picture book

Selected research projects (statistics)

Vancouver City Planning Department: The Aquatic Community, Main Part and Summary, 1977
City of Groningen: Woonschepen en hun bewoners in de gemeente Groningen, 1974
Residential Boat Owners Association: The floating voters, the case for houseboat legislation, London
Province North Holland: Interimsrapport van de Commissie Woonschepen (1976)

Selected academic ventures (design theses)

Dennis Beebe: Aquitecture, thesis for the Boston Architectural Center, 1978
Mark Anthony: Thesis for the University of Manitoba, 1978

Furthermore:
S. Dubin: Water Squatters, 1974
Other references

Selected articles in journals:

Habiter la mer, l'Architecture d'Aujourd'hui, vol 175, Sept./Oct. 1975
(an euphoric piece on the evolution of dwellings)

Floating Subdivision, Professional Builder & Apartment Business,
February 1977 (on Seattle's professional new development; or contact
Art Brevik, Shoreside Construction Company, 2640 Fairview Avenue East,
Seattle, WA 98102)

Architectural Design 2/75 (on London's Waterfront Redevelopment; or
contact Nick Falk, Urb/Ed group, Covent Garden, London)

North Van's Floating Village, The Alpha Report on B.C. Business (on
Vancouver's hi-tech solar community; or contact Frank Ogden,
P.O. Box 3056, Vancouver, B.C.)

Some major houseboat journals

London: Soundings, Journal of the Residential
Boat Owners Association, Taggs Island,
Middlesex (appears quarterly)

Amsterdam: Amsterdams Woonschepen Krantje,
Amstel t/o 17 (appears irregularly)

Seattle: Newsletter, Floating Homes Association,
2093 Fairview East (appears bi-monthly)

Sausalito: Waldo Garlic Press, Serving The Resi-
dents Of Richardson's Bay, Waldo Point
(appears monthly)
## Contacts

### Houseboat Organizations

<table>
<thead>
<tr>
<th>Location</th>
<th>Organization Name</th>
<th>Address</th>
</tr>
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<tbody>
<tr>
<td>The Netherlands</td>
<td>Landelijk Woonschepen Overleg</td>
<td>Zijkanal H, bus 33, Amsterdam-Noord</td>
</tr>
<tr>
<td>Amsterdam</td>
<td>Amsterdam Woonschepen Overleg</td>
<td>&quot;De Twee Gebroeders&quot;, Amstel t/o 17</td>
</tr>
<tr>
<td>Paris</td>
<td>Association pour le defense de l'habitat fluviale</td>
<td>c/o Xavier Esselinck, 4 rue Beautreillis, 75004 Paris</td>
</tr>
<tr>
<td>London</td>
<td>Residential Boat Owners Association</td>
<td>Taggs Island, Middlesex</td>
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<tr>
<td>Seattle</td>
<td>Floating Homes Association</td>
<td>2093 Fairview Avenue East, Seattle, WA 98102</td>
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