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Citation: Susskind, Lawrence. “Comments on ‘Managing Complexity: From Visual Perception to Sustainable Transitions. Contributions of Brunswik’s Theory of Probabilistic Functionalism.’” *Environment Systems and Decisions* 38, 1 (November 2017): 74–75 © 2017 Springer Science +Business Media, LLC

As Published: <http://dx.doi.org/10.1007/s10669-017-9661-6>

Publisher: Springer US

Persistent URL: <http://hdl.handle.net/1721.1/114773>

Version: Author's final manuscript: final author's manuscript post peer review, without publisher's formatting or copy editing

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Comments on “Managing complexity: from visual perception to sustainable transitions. Contributions of Brunswik’s Theory of Probabilistic Functionalism”.

Submitted by Lawrence Susskind, Ph.D., Ford Professor of Urban and Environmental Planning, Massachusetts Institute of Technology and Vice-Chair, Program on Negotiation at Harvard Law School

Roland Scholz and his team have done a fine job of drawing attention to what they see as the important insights contained in Brunswik’s Theory of Probabilistic Functionalism (TPF). And, they have made a praiseworthy effort to demonstrate how Brunswik’s insights can be applied to many kinds of organisms or systems, at many levels, and at the same time, contribute to the management of social complexity. In its scope, Scholz’s paper is truly transdisciplinary. (So much so, that I am not adequately equipped to comment on several portions of the review.) The primary goal of the paper is to demonstrate that it is possible to apply Brunswik’s insights about visual perception, including contemporary knowledge about its corresponding biological processes, to the way we understand social phenomena (like the functioning of human groups). Therefore, I will focus on the portion of the paper that seeks to explore this connection.

It took me a while to understand that the goal of studying local planning (i.e. sustainable transitioning) groups was not to prove that they function in the same way as biological systems. Rather, Dr. Scholz set out to assess the work of these groups to answer a different question: Are the participants in these groups able to reach a stable conception or a shared understanding of what sustainable transitioning in their context might require by applying something like the seven key steps in the TPF framework? It didn’t matter in the final analysis whether these groups reached an actual agreements or not, or whether their recommendations were implemented (successfully). Rather, by carefully documenting their work, Dr. Scholz hoped to determine whether the participants handled the five steps in sustainability planning (i.e. problem definition and goal formulation; case selection and system representation; projecting or constructing

alternative futures; scenario evaluation, and developing strategies or a robust orientation that is likely to be resilient) by applying something similar to or inspired by the principles contained in the TPF framework. The planning groups were made up mostly of students and scientists who were trained to use the framework. In “real life,” of course, decisions about sustainable transitioning are politically fraught. They entail allocating gains and losses among different segments of the population; so, politically successful consensus building must include representatives of all the relevant segments of the community, chosen by those groups, and a mandate from the elected government.

There is no way to assert the scientific correctness of a particular sustainable transitioning proposal. The groups in this study might have worked in a way that followed or was inspired by TPR-like thinking, but they also appear to have generated proposals that could not win local support. And, we can’t know whether their proposals, if implemented, would have produced counter-intuitive or even disastrous results. In this case, though, that is not important.

The “gentle verification” that Dr. Scholz writes about is not aimed at judging the success of the planning efforts he studied, but rather at assessing whether the internal conversations that took place in the groups confirm the usefulness or relevance of TPF. And, he found that a significant percentage of the groups’ work unfolded in ways that appear to him to be consistent with what the TPF framework suggests (i.e., Did they take something like an adaptive functionalist perspective? Were they determinedly dualistic in their view of linked systems? Did they take a probabilistic perspective in acquiring and processing information? Did they deal with information shortages through something akin to vicarious mediation? Did they engage in representative design, emphasizing the importance of case specific details? Were they self-consciously aiming at evolutionary stabilization? Did they pay attention to the interdependence of variables and the unexpected effects of interlinkages)? When I look at the evidence presented in Table 1 that convinced Dr. Scholz the groups did things and took steps that appear to be consistent with the TPF framework, I’m not sure I am as convinced as he is. He

seems to have stretched and reinterpreted each of the elements of the TPF framework quite a bit. When I look at the third column in Table 1 describing the causes of the planning teams' failures, I don't know whether their difficulties should be attributed to the shortcomings of each groups or to the fact that TPF doesn't actually apply (at least not the point that it provides a useful prescriptive framework). Unfortunately, it's not possible to know.

My work for many decades has focused on sustainable planning efforts all over the world. The theory of practice I use (called a mutual gains approach to negotiation) includes many of the "ideal sustainable planning" attributes listed in Table 1. However, I spend a great deal of time working with the political leadership in each community to ensure that all relevant stakeholder groups have a chance to participate. The participants are rarely scientists and they rarely have joint training in sustainability planning. They almost always see themselves as political representatives fighting for their interests. I can justify why and how we handle the five steps in the planning process the way we do. I have done this work for quite a long time without the help of the prescriptive framework that Dr. Scholz has derived from Brunswik's TPF. In the end, I don't know whether the Brunswik's insights are the key to my success, or whether there is an accidental overlap between Brunswik's seven principles (viewed and stretched through Scholz's eyes) and the ways in which the practice of sustainability planning has evolved on its own. On the other hand, I have benefitted a great deal from trying to figure that out.