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Systems Are Theory

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Systems are theory. They are distinguished by observers, scientific or intellectual, and talked about with other observers. They describe a complexity, consisting of a highly integrated differentiation, established and maintained by a boundary, which selectively separates a unit from and connects it with an environment as seen by an observer. The paper looks at the history of the notion of systems from the Greeks and the Scholastics up to its peak in the Enlightenment era; then describes the sociological reception of the notion with Auguste Comte, Vilfredo Pareto, Talcott Parsons, and Niklas Luhmann; and finally, concludes with notes on complexity, the observer, and negation.

Introduction

Systems are theory. That does not mean that they do not exist. Nor does it mean that their theory is wrong. It just means that the modus of their differentiation and reproduction is not as clear and distinct as some of their definitions would have it. It means that the observer plays a more prominent role than even constructivist epistemologies like to admit. And it means that the theory of systems is a constant work in progress, any one of its notions—including element, relation, boundary, operation, code, or function—being open to both doubt and reconsideration (Bahm, 1969). An easy way out of this situation seems to be to acknowledge that there is not just one, but there are many systems theories, depending on disciplinary inclination, interdisciplinary clout, and epistemological reflection. But then, why are they all called systems theories? Can we do a theory of systems theories which assumes that the meaning of the word does not just hint to some family resemblance but to a common question, a common way of looking at a problem?

The status of systems and of their theory was doubtful right from the beginning of their invention. This paper looks at some of the more prominent instances of that doubt. I am, to be sure, not interested in epistemological questions, let alone questions of *Wissenschaftstheorie* (theory of science). I am interested in what kind of theory is necessary to speak of systems in the first place**.** Later in this paper we will take a look at a French, two German, and two British examples which spell out the theoretical status of systems. Condorcet, like Leibniz before him, looked at the frenzy of systems thinking in 18th century and recommended speaking of systems if there were at least two sets of contradictory hypotheses concerning any astronomical, biological, or social fact. Adorno said that if there are systems at all, they consist in negative objectivity, that is, in resistances to be understood and dealt with. And Kant said that the notion of system is useful to look at things using the notions of wholes, parts, and purposes, but only in cases when you are ready to turn all three into variables and even

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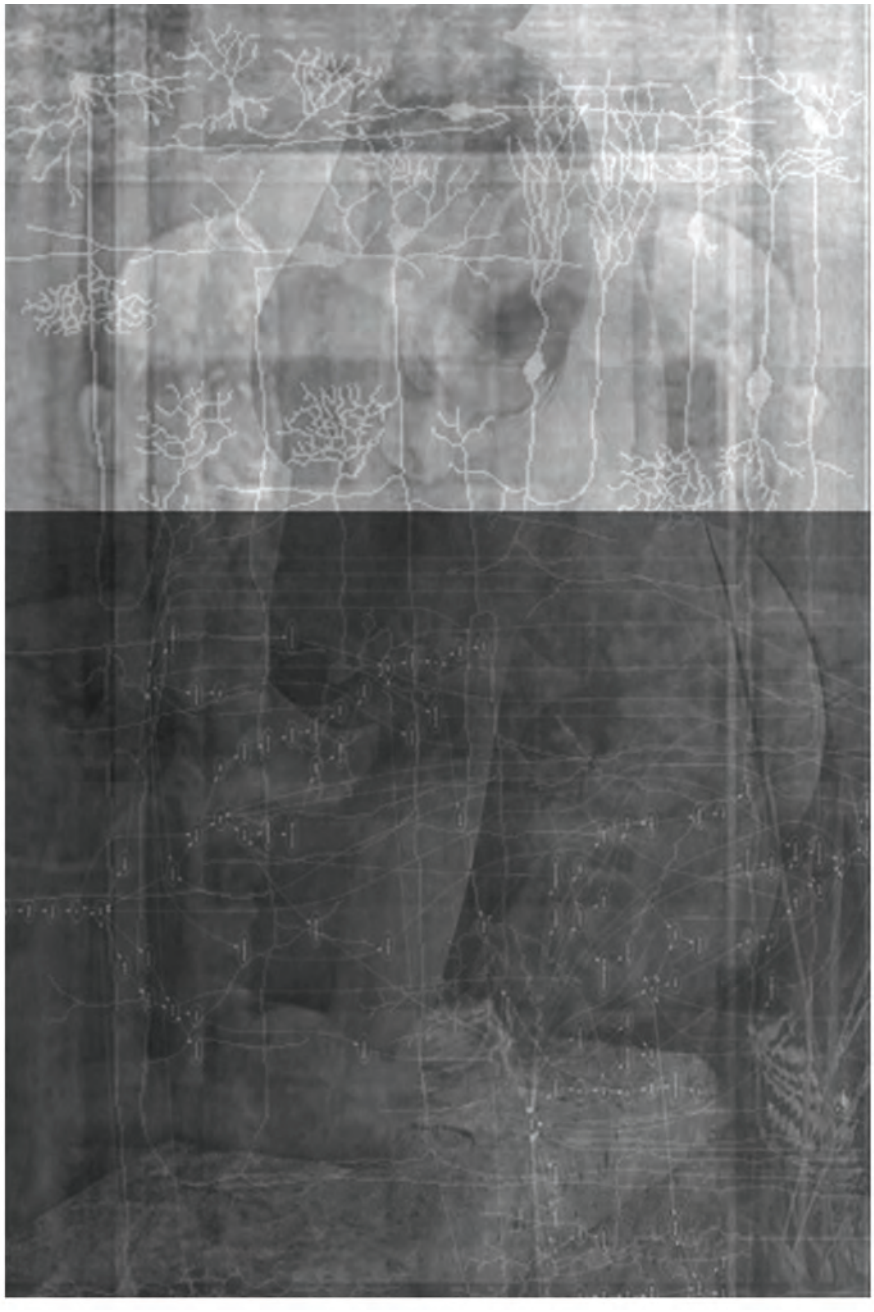
Nechvatal, J. (2014). *drifting telemachus* (detail 1). Computer-robotic assisted acrylic on velours canvas, 44 x 66 inches.



Nechvatal, J. (2014). *nymph in nature*. Computer-robotic assisted acrylic on velours canvas, 66 x 44 inches.