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Enactive Causality: Interventions, Cakes, and Clockworks: A
Reply to Gallagher and Donovan and Murphy

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ENACTIVE CAUSALITY:
INTERVENTIONS, CAKES,
AND CLOCKWORKS
*A Reply to Gallagher
and Donovan and
Murphy*

SANNEKE DE HAAN



WHEN INTRODUCING A novel model, two things need to be in order: it has to be accurate and it has to be workable. In their comments, Gallagher as well as Donovan and Murphy helpfully criticize my enactive account on both grounds.

First, its accuracy. Donovan and Murphy doubt whether my enactive model can account for the distinction I make between psychiatric and neurological disorders and, more generally, between different kinds of causes and interventions. In the article, I argue that sense-making problems that result from arbitrary physiological causes such as brain tumors are different from psychiatric disorders in which the sense-making problems attest of a primary difficulty of someone's relating to themselves and/or their world. Psychiatric disorders thus refer to global disturbances of persons in their worlds, whereas neurological disorders refer to local disturbances in people's brains. On this division, dementia should indeed be classified as a neurological rather than a psychiatric disorder because there is no motivational story to tell about the sense-making problems that constitute the ill-

ness. But if I say that sense-making problems can have an arbitrary physiological cause instead of a life-world reason, am I not again opposing physiological and other (experiential, environmental, existential) processes? Such an opposition would go right against my claim that the four dimensions are mereologically related, as different foci on one and the same process. A similar problem seems to arise when I distinguish between different kinds of interventions as having different causal trajectories. Psychotherapy and drugs for example can both be effective, but they work in different ways, presenting different causal trajectories. Does this mean that I am again falling back on sorting interventions dualistically into either experiential or physiological? Am I saying that when psychotherapy changes someone's mood this change *in turn* leads to certain physiological changes?

No, I am not. As I write in the article, both experiential and physiological processes can only be understood in terms of their dependence on the wider context of a person in interaction with her world. As they are both part of this larger system, it would be a mistake to oppose them and assume

linear causal interactions between them, as if a physiological domino were hitting a psychological one, or vice versa. So how then should we understand these differences?

Donovan and Murphy seem to think that a holistic system cannot allow for differentiation: that differentiation automatically calls for decomposing the system into various parts. They assume that if we distinguish between different starting points and different causal trajectories we need to be able to point to *which part* of the system is at fault; *where* it goes wrong. Accordingly, they argue that the four dimensions (physiological, experiential, sociocultural, and existential) have to be isolated, as different parts of the person-world system, with causal relations between them. That would indeed undermine my enactive account: the four dimensions are *part* of one person-world system, but precisely not isolatable *parts* of this system. It is, however, a misconception to think that differentiating requires such localizing of isolatable parts.

The kind of system Donovan and Murphy seem to have in mind is like a clockwork: when the clockwork stops ticking we can open it up and see which cog got stuck, or which screw got unscrewed. But, as Bechtel and Richardson (2010) argue, not all systems are decomposable in this way. A holistic system such as the person-interacting-with-her-world is non-decomposable—but that does not make it a black box. What is required is a shift from thinking in terms of linear causal relations between different parts to thinking in terms of the organizational causality of global-to-local or local-to-global effects. To take my example of cakes again, when my chocolate cake does not taste as good as usual, that can be due to all kinds of causes, ranging from mistakes in the amount of sugar (local-to-global effects), to mistakes in how long it has been in the oven (global-to-local effects). Even though we can distinguish such different causes, there is no linear causality going on between parts: an excess of sugar does not *in turn* cause the cake to taste too sweet, the time in the oven does not *in turn* cause the cake to be dry. Unlike the cogs in a clockwork, the sugar is not an isolatable part of the cake, nor is the cake's taste. We cannot point to the excess of sugar as it has become part of, is fused with, the cake as a whole.

Similarly we can distinguish between the different effects of different interventions without having to assume that they involve linear causality between isolatable parts. Organizational causality can also capture the asymmetry between physiological and experiential processes: experiential processes are more global, physiological processes more local. So although experiential processes always include physiological processes, not all physiological processes reach the threshold of being experienced. If, for instance, psychotherapy changes my mood, this will include certain physiological changes: the effect of my mood on, say, my serotonin level, is of a global-to-local kind. If, on the other hand, I take certain drugs that influence my serotonin level, it would have to reach a certain threshold to affect my mood: that would be a local-to-global effect. In neurological disorders, local brain disturbances can add up to global sense-making problems. In psychiatric disorders, global sense-making problems will include certain local neurological processes.

As Gallagher rightly notes, the issue of causality is central to solving the integration problem. He suggests calling on Woodward's interventionism. Interventionism offers a metaphysically neutral measure for the efficacy of interventions. That is helpful, but not to solve the integration problem. Its metaphysical neutrality means that it has nothing to say about what is going on when something is causally effective. As such, it cannot distinguish between linear and organizational causality and is thus compatible not only with an enactive account, but just as much with dualist or reductionist accounts. Organizational causality, backed up by Humphreys' (1997a, 1997b) account of emergence as fusion, does provide the integrative perspective that an enactive model needs.

Second, the enactive account may be accurate, but is it also workable? Is it not too complex, does it allow for specialization, and is it constrictive enough?, Donovan and Murphy ask. Doesn't it demand too much from psychiatrists?, Gallagher adds. Gallagher also kindly offers the solution to this latter problem: treating people with psychiatric disorders could be, and often already is, team work. An enactive approach calls for a 'decentered psychiatry' as Larsen (forthcoming) argues. This also answers Donovan and Murphy's worry about

specialization: an enactive take on psychiatry certainly allows for specialized knowledge: its role is rather to provide a framework to connect these different areas of expertise and thus support collaboration between experts.

Holistic models, furthermore, run the everything-is-relevant risk: if everything matters, we are left paralyzed by options. Some things matter more than others and we need a way to figure out which interventions will work best for which patient. As Gallagher points out, interventionism is helpful here as it provides us with a neutral measure of determining efficacy. Finally, the matter of complexity. A multidimensional model assuming a complex dynamical systems approach is necessarily more complex than one-dimensional models that rely on linear causality. I do not think the enactive account is too complex though. To have four main dimensions seems manageable, and the level of detail of each of these dimensions will depend on the question at stake. Besides, the basic shift in thinking that an enactive model requires is simple:

we need to think of persons interacting with their worlds as psychiatry's main unit of analysis and use an organizational rather than a linear notion of causality to connect its four dimensions. Think cakes not clockworks!

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