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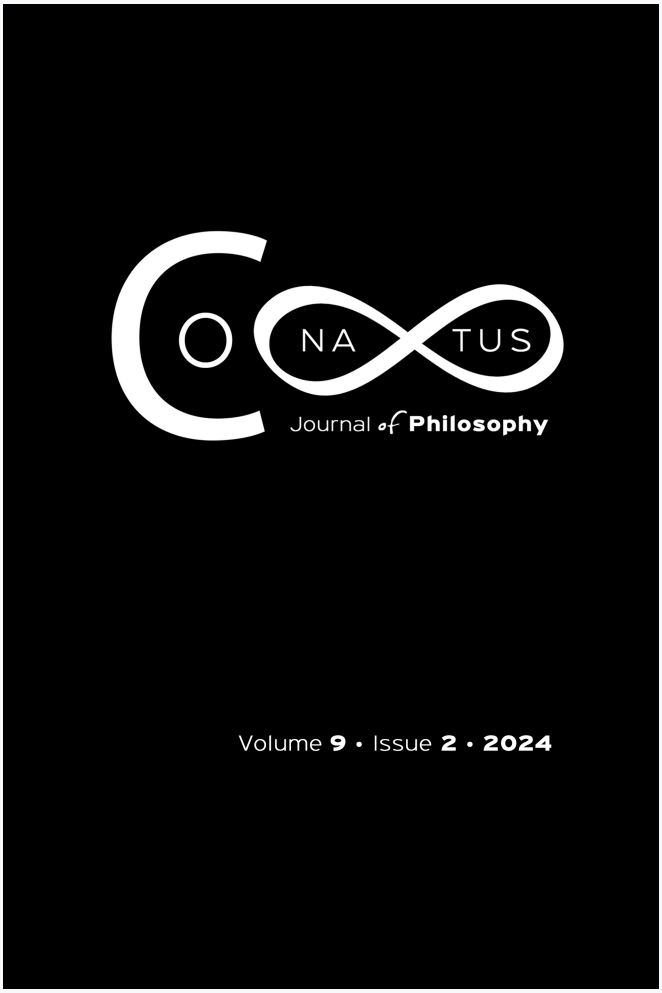

An Encompassing, Normative Philosophy of Design: The Theory of Responsive Cohesion

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An Encompassing, Normative Philosophy of Design: The Theory of Responsive Cohesion

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Abstract

Design is concerned with the ways in which we deliberately seek to arrange, organize, or structure things. From a philosophy of design perspective, the practice of design raises fundamental questions about the basic ways in which things can and should be organized. I advance a tripartite schema of the basic ways in which things (anything at all) can be organized and offer a triangular model of the "organization space" or "design space" they define. I refer to these three basic forms of organization as "responsive cohesion," "fixed cohesion," and "discohesion," and offer three reasons why responsively cohesive forms of organization are more valuable than the other two; indeed, the other two forms of organization are typically disvaluable. Beyond focusing on the value of individual instances of responsive cohesion, I further consider the fact that every responsively cohesive item exists within a wider context(s), which may itself tend more towards fixed cohesion, responsive cohesion, or discohesion. This raises a number of further issues; for example, what should we do if a responsively cohesive item clashes with – is discohesive with – its responsively cohesive context? I advance a normative theory of contexts to sort out these kinds of issues. In the context of this discussion, I briefly consider a range of other ideas that bear a family resemblance to the idea of responsive cohesion and indicate, equally briefly, why the theory of responsive cohesion approach is superior to these other approaches. I conclude with some guidance on how we can implement the ideas advanced here ("we" because we all design things in our own way) and then, more specifically, on the implications of these ideas for the professional designer-client relationship.

Keywords: *designing; forms of organization; responsive cohesion; fixed cohesion; discohesion; architecture; contexts; ecological*

Design is centrally concerned with the ways in which things can be envisaged, made, or enabled to hold together (cohere). This immediately raises several interesting questions, foremost among which are: What are the possible ways in which things *can* hold

together (or not)? Is one (or some) of these ways of holding together better in some sense than the others? Why? What follows from this in terms of how we should design things? Each of these questions is a philosophical one as much as a design-related one, since each concerns reason-based inquiry into fundamental questions – questions concerning, in this context, the nature and value of different forms of organization and the action guiding principles, if any, that follow from this when we deliberately seek to arrange, organize, or structure things (in other words, design things) in the world (the etymology of the word "deliberate" is instructive here: it derives from the Latin *deliberare*, "to consider well," which is precisely what philosophers and designers like to think of themselves as doing).

I intend to answer each of these questions in the course of this paper and thereby to offer an encompassing, normative philosophy of design. Each of these descriptors – "encompassing," "normative," and "philosophy of design" – earns its keep here. First, the approach I will advance is an encompassing one in two dictionary-sanctioned senses.[1] On the one hand, it will "include entirely or comprehensively" the possible ways in which things *can* hold together and, thus, the possible forms of organization that are open to designers. On the other hand, the approach advanced here will also offer a nested set of contexts (which can be visualized as a set of concentric or surrounding circles) within which any design must exist. (Another meaning of "encompass" is "to enclose within a circle; surround.") Second, the approach I advance here is a normative one (i.e., a priority ordering and action guiding one) in that I will advance arguments not only for the superiority of one general form of organization over its alternatives but also for the priority in which the contextual relations of any design should be considered and acted on. Third, the approach I will advance here proceeds within the ambit of philosophy of design in general (rather than a more immediately practical focus on design theory in particular) because it proceeds from foundational questions about the ways in which things can and should be organized.[2]

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[1] Definitional quotations here and below are from *Collins English Dictionary: Complete and Unabridged*, sixth edition (Glasgow: Harper Collins, 2003).

[2] For more on the young field of philosophy of design, see Glenn Parsons, *The Philosophy of Design* (Cambridge: Polity Press, 2016), who draws a distinction between philosophy of design and design theory in his introductory section; see also the short piece by Per Galle, another pioneer in this area, entitled "Philosophy of Design: An Introduction," https://royaldanishacademy.com/cephad/philosophy-design-introduction, in which he characterizes philosophy of design simply as "the pursuit of insights about design by philosophical means," which is exactly what I am concerned with in this paper.

I. Three basic forms of organization: Fixed cohesion, responsive cohesion, and discohesion

I begin by working from first principles and argue that there are three basic ways in which things can hold together – or not. And by "things" here, I mean anything at all – from physical and biological stuff to conversations, narratives, lines of argument, presentations, artworks, buildings, towns, political systems, and so on. The three basic ways in which things can hold together (or not) are these:

> a. they can hold together by virtue of the mutual responsiveness – the mutual "answering" to each other (whether literal or metaphorical) – of the elements or salient features that constitute them;
>
> b. they can hold together alright, but do so in such a way that the elements or salient features that constitute them are not mutually responsive to each other;
>
> c. they can simply fail to hold together well or at all.

I refer to these three basic forms of organization as *responsive cohesion*, *fixed cohesion*, and *discohesion*, respectively.[3] The term "cohere" means to cling, hold, stick, or adhere together (from Latin *cohaerēre*, from *co-* together + *haerēre*, to cling, adhere). The term "responsive" derives from the Latin *rēsponsum*, answer. Thus, the term "responsive cohesion" can be thought of as referring to a structure or form of organization that holds together by virtue of the mutual "answering to each other" of its elements or salient features (again, this term is apt whether we consider the notion of "answering to each other" literally or metaphorically).

What about "fixed cohesion"? Although things can hold together in any number of non-mutually responsive ways, these typically fall into one of two main classes. First, it might be the case that one or a very

[3] These categories and their implications were first advanced at book length in my *A Theory of General Ethics: Human Relationships, Nature, and the Built Environment* (Cambridge, MA: The MIT Press, 2006). Although these ideas were originally advanced in an explicitly ethical context, they have since been picked up and applied by several authors working in broadly design-oriented contexts ranging across architecture, craft, environmental aesthetics, garden design, landscape architecture, landscape management, and urban design (for a full listing, see the "Books" page of my personal website under the information on *A Theory of General Ethics*: https://www.warwickfox.com/books.html). That said, this is my own first paper-length elaboration of these ideas geared explicitly towards the philosophy of design per se.

few factors dominate the rest of whatever example is being considered such that "the rest" is forced, as it were, to bend to the will of these dominant factors, irrespective of what "the rest's" potential contributions might "call for" in their own right. Political examples of fixed cohesion include dictatorships and oligarchies; communicative examples include "conversations" in which one party dominates the other in terms of speaking time or the topics being "discussed." Second, it might be the case not so much that one or a few factors *within* whatever example is being considered dominate the rest, but rather that the entire example is itself predicated upon a restricted or stereotypical template that unduly constrains the possibilities that are actually available in the relevant situation. Examples here range far and wide: the hackneyed TV drama; the "pack-'em-in" architect's design brief that flattens landscape for bland identikit houses; the conversation in which both parties are playing such dutiful roles that they seem to be just "going through the motions."

Each of these forms of organization can be said to hold together alright – they're not "all over the place" or, in my terms, discohesive – but they hold together by virtue of various explicitly imposed or implicitly accepted constraints that serve to fix everything else in place. This stands in distinct contrast to responsively cohesive forms of organization, which hold together by virtue of the mutual responsiveness of the elements or salient features that constitute them. This, in essence, is the distinction between fixed cohesion and responsive cohesion.

I should also note here that the distinction between fixed cohesion and responsive cohesion does not map onto the distinction between static and dynamic. A painting is literally static, but can exemplify a massive degree of responsive cohesion in the interrelationships between its forms; conversely, dictatorships, hackneyed TV dramas, and conversations that are "stuck in a rut" are literally dynamical, but exemplify fixed cohesion in their forms.

I use the neologism "discohesion" to refer to things that fail to hold together well or at all. I do this rather than use similar terms such as "chaos" or "anarchy" because these terms can carry associated meanings that I do not want. Modellers of complex systems talk in terms of "deterministic chaos" and can provide us with simple equations that determine precisely (i.e., in a fixed way) developmental pathways for whatever "system" is under consideration but which nevertheless look like completely random order. This association of the term "chaos" actually pushes it in the direction of what I mean by "fixed cohesion" – albeit of an idiosyncratic kind – rather than "discohesion" since the whole apparently discohesive order is actually driven by a fixed template. And the term

"anarchy" slides between an everyday sense that is very similar to what I mean by "discohesion" and a political theory sense that can sound more like what I mean by "responsive cohesion." This is because the ideal form of anarchism promoted from its founding fathers on has extolled the idea of society organising itself (vs. being governmentally or centrally organized) around the principle of "mutual aid," which sounds very like "responsive cohesion." (That said, other forms of responsively cohesive political order with a better track record in practice are available, such as a well-functioning democracy.)

Given the trickiness of the territory here, I therefore want to steer clear of the unwanted mathematical-scientific and political theory associations that terms like "chaos" and "anarchy" can carry and instead use the term "discohesion" simply to refer to things that fail to hold together well or at all.

II. The relationship between these three forms of organization

It might initially be tempting to think of these three forms of organization as lying on a linear scale ranging from fixed cohesion to discohesion with responsive cohesion in the middle. But this is unhelpful, not least because it is possible to provide examples of things that are characterized essentially by fixed cohesion and discohesion (i.e., at opposite ends of what would seem to be the most natural linear mapping of these forms of organization) with no significant involvement of responsive cohesion at all. Examples here could include a strictly regimented dictatorship interrupted by pockets of spontaneous out-and-out rioting or a stereotypical paint-by-numbers cop show whose predictable plot line descends into an incomprehensible narrative mess. It is far better to envisage the three basic forms of organization I have outlined as representing the corners or vertices of a triangle that defines a notional "organization space" or "design space" (as in Fig. 1) onto which we can plot real world examples.

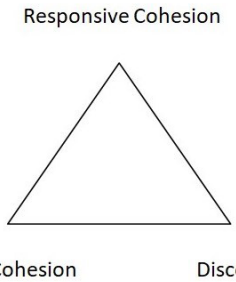

Figure 1. Notional "organization space" or "design space" depicting the three basic forms of organization in a two-dimensional triangular (as opposed to linear continuum) relationship.

I find it convenient to think of the line between fixed cohesion and discohesion as the base of this notional triangle and responsive cohesion as the apex. (If the appropriateness of this "superior" location is not already obvious, then it will become so in the next section.) Exemplary forms of any one of these forms of organization would then be plotted on or very close to the appropriate corner of this triangle, combinations of any two at an appropriate point along one of the sides of the triangle, and combinations of all three at an appropriate point within the triangle.

It should also be noted that these categories of forms of organization are exclusive of each other and collectively exhaustive. In regard to being exclusive of each other, we can see from the definitions given earlier that to the extent that a form of organization is cohesive in some way, then it is not discohesive; and to the extent that it is responsively cohesive, then it is not fixedly cohesive (and vice versa). Anything at all can contain various mixtures of these categories, but the categories themselves are logically distinct. In regard to being collectively exhaustive, these categories exhaust the possible range of forms of organization because things can't be neither cohesive in some way nor discohesive (i.e., there are no other possibilities), and the responsive cohesion-fixed cohesion distinction is then simply one way – I think the most insightful way – to divide up the possible forms of cohesiveness.

III. Why responsive cohesion is the best form of organization

I contend that responsively cohesive forms of organization are superior to their alternatives in at least three profoundly important ways: a. they convey a clear sense of being more "alive" than the other two basic forms of organization; b. they are more interesting, engaging, or absorbing than their alternatives; and c. they are more balanced, fair, or "true" than examples of fixed cohesion or discohesion, where the use of "true" here is understood in the senses of "in tune: *a true note*" or "correctly aligned," as with a coin or dice that is "fair" or "unbiased." I will briefly consider these points in turn.

a. The "more alive" argument: The argument that responsively cohesive forms of organization are more "alive" than their alternatives is not concerned with the question of whether something is physically or literally alive or dead in a physiological or medical sense but whether they have a greater *quality* of "aliveness" about them. Healthy living

systems obviously possess such a quality, but so do many other kinds of things, from everyday objects to artworks, from buildings to conversations.[4]

With this in mind, we can say that responsively cohesive forms of organization convey a clear sense of being more "alive" than the other two basic forms of organization because they either are alive or at least partake in the responsively cohesive form of organization that we associate with living things. Conversely, fixedly cohesive and discohesive forms of organization convey a clear sense of being "deader" than responsively cohesive forms. This is because they either are dead or partake in the form of organization that we associate with dead or dying things: fixedly cohesive structures speak of a hardening of things, of sclerosis, fossilization, and rigor mortis; whereas discohesive structures speak of either an explosive ending or exhaustion and decay.

b. The "more interesting, engaging, or absorbing" argument: Responsively cohesive forms of organization are more interesting, engaging, or absorbing (and, thus, more rewarding of attention) than their alternatives because they combine semi-predictable order with far less predictable forms of creativity, novelty, or surprise. The overall sense of order that is conveyed by responsively cohesive forms of organization is expressed through their overall cohesive properties, whereas the creative, novel, or surprising features that are conveyed by these forms of organization are expressed through the complex mutual responsiveness of the elements or salient features that constitute them. In contrast, fixedly cohesive forms of organization are essentially boring, or rapidly become so, precisely because they are too rigidly ordered or repetitious to maintain our interest. Discohesive forms of organization, on the other hand, might initially be bewildering, but they rapidly become boring too, precisely because they are so predictably unpredictable.

Cognitive psychology shows us increasingly that our brains work on the basis of predictive models of the world.[5] We habituate to (i.e.,

[4] The influential architect and design theorist Christopher Alexander has written much on this general topic including his four volume *The Nature of Order: An Essay on the Art of Building and the Nature of the Universe* (Berkeley, CA: The Centre for Environmental Structure, 2002); the environmental aesthetician Isis Brook has drawn on both Alexander's ideas and the idea of responsive cohesion in her paper "Enlivening and Deadening Green and Gray Spaces: An Exploration of Christopher Alexander's Features of Living Design," *Contemporary Aesthetics* 22 (2024), https://contempaesthetics.org/2024/01/22/enlivening-and-deadening-green-and-gray-spaces-an-exploration-of-christopher-alexanders-features-of-living-design/

[5] Andy Clark, *The Experience Machine: How Our Minds Predict and Shape Reality* (London: Allen Lane, 2023).

effectively screen out) signals or patterns that remain the same if we are not forced to attend to them; they do not sustain our interest because they are already anticipated. If we are forced to attend to such stimuli or patterns, then we quickly become bored. Equally, we can tend to screen out discohesive stimuli or patterns because they are *predictably* unpredictable and so in that sense are also already anticipated. But if we are forced to attend to them too, or are simply overwhelmed by them, then we become stressed and anxious and our performance on tasks suffers. These are common observations from our own experience, but their pedigree in experimental psychology can be traced at least to the early twentieth century in what has become known as the Yerkes-Dodson Law, the data for which support the idea that there is an optimal level – a Goldilocks' level if you like – of arousal for each of us.[6] A certain amount of stress or stimulation – in this case we are considering the amount of information processing, or how hard our neural "prediction engine" has to work – improves arousal and motivation (or what I am referring to here as interest or engagement), whereas too much has a negative effect on us.

c. The "more balanced, fair, or 'true'" argument: Responsively cohesive forms of organization exemplify these qualities far more than the other two basic forms of organization because responsively cohesive forms of organization – and only these forms of organization – represent the upshot of the myriad of both cooperative and competitive elements or salient features that constitute them. In other words, all these elements or salient features have, as it were, been "taken into account" or "factored into" the resulting form of organization. The upshot is that responsively cohesive forms of organization are the forms of organization that best resolve the tensions that may exist between the elements or salient features that constitute them. They therefore represent a balanced, fair, or "true" outcome (no matter how far from "equilibrium" this outcome might be in, say, a physics or complexity theory sense). In contrast, fixedly cohesive forms of organization are those in which tensions are actively kept under strict control or at least so highly constrained in their initial set-up that they are unable to express themselves freely as it were. As I have noted, examples are everywhere, from dictatorships and strict codes imposed by social customs to generic or template kinds of design "solutions." As for discohesive forms of organization, the question of balance is a non-starter; these are the

[6] Robert M. Yerkes and John D. Dodson, "The Relation of Strength of Stimulus to Rapidity of Habit-Formation," *Journal of Comparative Neurology and Psychology* 18, no. 5 (1908): 459-482.

forms of organization whose centre does not hold (even though they might be in "equilibrium" as, say, with the eventual heat death of the universe).

We generally think we have good reasons for considering the qualities of aliveness, interestingness, and balance (lack of bias, fairness, being "in true") to be distinctly better than their contrasts – deadness, uninterestingness, and being out of balance (biased, unfair, being "out of true").[7] It follows that we ought to take the form of organization that generates the former set of properties to be distinctly better than those forms of organization that generate the latter set of properties. In other words, responsive cohesion represents a distinctly better form of organization than either fixed cohesion or discohesion (and, as I have already noted, these forms of organization exhaust the range of basic forms of organization). In so far as we are responsible for bringing about certain forms of organization, we should therefore aim to bring about responsively cohesive forms of organization. This, in a nutshell, is the key to good design.

IV. A brief note on alternative concepts to responsive cohesion

Before moving on, it is worth noting that other philosophers, architects, and art theorists who have considered the relationship between form and value have reached conclusions that bear a family resemblance to the concept of responsive cohesion: for example, the significant American philosopher and educationalist John Dewey points, in his main work in aesthetics, to the value of "Mutual adaptation of parts to one another in constituting a whole;"[8] the influential American philosopher Robert Nozick emphasizes the fundamental value of "organic unity;"[9] the Finnish-American architect and art theorist Eliel

[7] I have presented the qualities/properties of aliveness, interestingness, and balance as actual/objectively instantiated properties of responsively cohesive forms of organization. (More precisely, they are actual/objectively instantiated "dispositional properties" of responsively cohesive forms of organization, whether these forms of organization are consciously registered or not; just as, say, fragility is an actual/objectively instantiated dispositional property of glass or china whether it is broken or not.) But from a more explicitly experiential or phenomenological point of view we can also note that the qualities of aliveness, interestingness, and balance are central to what we have in mind when we speak of finding "meaning" or "absorbed involvement" in the world: see, Jacob Bell, "The Reinstatement and Ontology of Meaning," *Conatus - Journal of Philosophy* 8, no. 1 (2023): 77-86.

[8] John Dewey, *Art as Experience* (New York: Penguin/Perigee, 2005), 140.

[9] Robert Nozick, *Philosophical Explanations* (Cambridge, MA: Belknap Press, 1981); Robert Nozick, *The Examined Life: Philosophical Meditations* (New York: Simon and Schuster, 1989). See also my earlier critical commentary on Nozick's conception of organic unity – along with some other ideas that might invite comparison with the concept of responsive cohesion – in

Saarinen emphasizes the value of "organic order;"[10] the British architect and aesthetician Peter F. Smith has argued for the interlinked values of "elegance," "balance," and "harmony;"[11] and the architect and general design theorist Christopher Alexander has argued for the value of "aliveness" (which, as we saw, represents one of the three kinds of arguments I advanced for the value of responsive cohesion).[12]

This brief name checking of the central concepts of these theorists in regard to this discussion is unfair to the richness of their work in this area, but then given the limits of this (essentially expository rather than comparative) paper I must equally restrict my own remarks in regard to these "similar in some ways to responsive cohesion" concepts. The *general shape* of my responses to claims that any of these conceptions is superior to or more useful than the set of ideas I have advanced here can be briefly captured as follows. First, these alternative concepts are not always very clearly defined (there are exceptions, e.g., Dewey's definition, above, which, as it happens, is very close to my definition of responsive cohesion). Second, these alternative concepts are, in any case, often underdeveloped: one usually wants more details, more texture in order to set these concepts to work in reasonably clear and useful ways. Third, regardless of whether the central concepts of these alternative approaches are well-defined or substantially developed (and these two requests are not the same), they are too often left merely to imply their contrast (or contrasts) rather than their contrast (or contrasts) being explicitly named, let alone clearly defined and also developed. Fourth, whether the contrast to each theorist's central concept is implied or well defined, we *are* typically talking about a single contrast rather than more than one contrast (which, as I hope to have shown with my tripartite specification and definitions of fixed cohesion, responsive cohesion, and discohesion is necessary in order to exhaust the space of possible forms of organization). Finally, none of these theorists' ideas is developed by its advocates into anything like the normative theory of contexts that, as I will argue below, is central to a full explication of the theory of responsive cohesion. This matters immensely because, as I hope to show, a normative theory of contexts is crucial to *any* fully developed normative philosophy of design.

"Appendix to Chapter 4: A Note on the Concepts of Responsive Cohesion, Reflective Equilibrium, Organic Unity, Complex Systems, and So On" in my *A Theory of General Ethics*, 115-123.

[10] Eliel Saarinen, *The Search for Form in Art and Architecture* (New York: Dover, 1985).

[11] Peter F. Smith, *Architecture and the Human Dimension* (Westfield, NJ: Eastview Editions, 1979), see esp. chapters 1-3.

[12] Alexander, *The Nature of Order*.

V. The importance of contexts: Individual vs. contextual forms of responsive cohesion

Every individual thing, structure, or form of organization exists within a wider context – or, more precisely, wider contexts, some of which might be more salient in some circumstances than others. If we accept that our task as designers is to bring about responsively cohesive forms of organization, then we want this to run all the way through our designs: from individual items of interest to the contexts in which they are located (considered in their own right) to the relations *between* these individual items of interest and their contexts. (Note that I am writing in this context as if we are *all* designers, which we are in our own ways as we seek deliberately to arrange, organize, or structure things in our worlds. I will later address professional designers more specifically.) This raises a series of questions:

a. If responsive cohesion is the best form of organization, then what should we do if a responsively cohesive form of organization is placed in a context that is itself largely fixedly cohesive or discohesive?

b. If responsive cohesion is the best form of organization, then what should we do if a responsively cohesive item is placed in a context that is itself responsively cohesive but where the relationship between these two forms of responsive cohesion – the item and the context – is nevertheless discohesive? Examples here could include placing a perfectly responsively cohesive chair in an otherwise perfectly responsively cohesive kitchen but where the chair just doesn't fit with – is discohesive with – that particular kitchen. Or placing some perfectly responsively cohesive bars of music in an otherwise perfectly responsively cohesive symphony you have just written, but much as you like these new bars of music, they just don't fit well – are discohesive – with the rest of the symphony.[13] What should have relative priority here, the responsively cohesive item or the responsively cohesive context?

c. Most acutely of all: working with the idea that things can typically be viewed within multiple contexts, what should we do

[13] This musical example might seem to be a less obviously "design world" example than that of the ill-fitting chair and kitchen, but of course a musical composition is brought about by "design" just as surely as more familiar "design world" examples. Moreover, this musical example helps to emphasize the fact, in a fairly literal way, that there can be "disharmony" between a responsively cohesive item and its responsively cohesive context.

when an individual item of interest is responsively cohesive with one or more of its relevant contexts (such as a streetscape or its immediate social context), but not with others (such as its wider environmental or ecological context)? Which of these contexts should be given priority?

VI. Addressing the first two questions (i.e., examples of responsive cohesion placed in non-responsively cohesive contexts on the one hand and responsively cohesive contexts on the other)

The first of these questions is relatively straightforward to address. If a responsively cohesive item we produce jars with the relatively fixedly cohesive or discohesive context – that is, the *non*-responsively cohesive context – into which it is placed, then, to put the matter bluntly, so much the worse for the non-responsively cohesive context. Our obligation as designers is to add examples of responsive cohesion to the world: to add, in other words, examples that are more "alive," more interesting, and more balanced, fair, or "true" than otherwise. If these additions jar with fixedly cohesive or discohesive contexts, then so be it. What, after all, is the alternative: to achieve a perverse kind of "cohesion" by adding examples of fixed cohesion to already fixedly cohesive contexts or examples of discohesion to already discohesive contexts, and thereby to contribute to embedding the plethora of "dead" (or deadening), boring, and out-of-kilter designs that already populate the world? Of course, a sophisticated designer might design something that is highly responsively cohesive in itself but that also tips its hat, as it were (even if perhaps ironically), to its fixedly cohesive or discohesive contexts, thereby softening the clash between them a little. But regardless of that, adding responsively cohesive designs to fixedly cohesive or discohesive contexts adds value to the whole, since where before there was no responsive cohesion, now there is at least some. Moreover, such additions might serve to nudge or, more positively, to inspire others to work towards transforming these hitherto fixedly cohesive or discohesive contexts in a more responsively cohesive direction.

Whereas my first question concerned placing an example of responsive cohesion in a *non*-responsively cohesive context, my second question is more challenging since it concerns placing an example of responsive cohesion in a context that is itself responsively cohesive, but with the twist that the relationship between these two forms of responsive cohesion – the item and the context – is itself discohesive (like the kitchen chair and bars of music examples given above). What should have relative priority here, the responsively cohesive item or

the responsively cohesive context? The answer to this dilemma is given to us by the logic of the argument for responsive cohesion. If I add a responsively cohesive item to a responsively cohesive context such that the relationship between the item and the context is discohesive, then I have clearly reduced the responsive cohesion of the "system" as a whole (i.e., the item plus its context), since where before there was only responsive cohesion, now there is responsive cohesion plus a prominent example of discohesion. Speaking colloquially, I could say that what was a "good egg" considered in its own right is now a "curate's egg" – only good in parts.

Given that we want to add responsive cohesion to the world and avoid introducing discohesion, the solution to the above problem is either to place the newly added responsively cohesive item in another responsively cohesive context in which it is more fitting (i.e., more responsively cohesive) or to modify the newly added item and the context in the direction of each other. If the latter, then the logic of the argument for responsive cohesion suggests that, in this case, we should give priority to the (responsively cohesive) context over the (responsively cohesive) item. To do otherwise would be to endorse modifying a context's worth of responsive cohesion every time a new responsively cohesive item didn't fit with it. It doesn't take much imagination to see that this would amount to the functional equivalent of discohesion on an ongoing basis: imagine some builders tearing your house apart and rebuilding it every time something they ordered for it didn't fit; these would truly be the builders from hell, the builders who realize your worst nightmares. If these builders – or our previous interior kitchen designers or symphonic composers – fail to understand the appropriate "direction of fit" between contexts and introduced elements, if they "come at things from the wrong end," then they will fail in their tasks of completing their different kinds of composition; they will fail to leave things "well arranged" (the word "composition" derives from the Latin *compositus*, "well arranged"). The upshot is that responsively cohesive additions should be modified far more in the direction of their responsively cohesive contexts than vice versa. As the architect Christopher Day simply puts it: "To be harmonious, the new needs to be an organic development of what is already there, not an imposed alien."[14]

We can see here that there is an important asymmetry in our responses to these first two questions. It boils down to this: if a responsively cohesive item is placed in a fixedly cohesive or a discohesive

[14] Christopher Day, *Places of the Soul: Architecture and Environmental Design as a Healing Art* (London: Thorsons/HarperCollins, 1990), 18.

context (i.e., any kind of non-responsively cohesive context), then that example of responsive cohesion trumps those contexts; but if a responsively cohesive item is placed in a responsively cohesive context such that the relations between them are discohesive, then, in this case, it is the (responsively cohesive) context that trumps the (responsively cohesive) item.

I've expressed this priority rule as starkly as possible here – in terms of what trumps what – in order to illustrate the asymmetrical nature of our responses to the first two questions I've considered. However, in regard to the second question of responsively cohesive items failing to fit in with their responsively cohesive contexts, it should be noted that this priority rule itself needs to be understood in a responsively cohesive sense. What I mean here is that the degree of priority that is accorded to a context vis-à-vis a new item needs to be weighted according to their relative scales: it makes both common and responsive-cohesion-endorsed sense to find a mutual accommodation between potentially equal parts or contributors to something, whereas obviously larger or more embracing responsively cohesive contexts should be given appropriately greater weight.

VII. The theory of responsive cohesion's normative theory of contexts

This brings us to our third question, which, you will recall, runs like this: since things can typically be viewed within multiple contexts, what should we do when an individual item of interest is responsively cohesive with one or more of its relevant contexts (such as a streetscape or its immediate social context,) but not with others (such as its wider environmental or ecological context)? Which of these contexts should be given priority? What we are looking for here is, in effect, a normative (i.e., an action guiding and, in particular, a priority-ordering) theory of contexts.

I have elsewhere[15] argued in some detail that there are three broad kinds of contexts in the world: a. the spontaneously generated natural biophysical (or ecological) realm; b. the linguistically-mediated human social realm (which, following Merlin Donald, I have also referred to as the "mindsharing" realm)[16]; and c. the human-constructed realm, which includes the built environment and all the other things we make that build on the first two contexts (I also referred to this realm, more

[15] Fox, *A Theory of General Ethics*, see chapter 6 and following.

[16] Merlin Donald, *A Mind so Rare: The Evolution of Human Consciousness* (New York and London: W. W. Norton, 2001), 11, 144.

formally, as the "compound material realm"). I cannot go into the detailed argument for this tripartite division of the world in the space of this paper, but the main point to realize for our purposes here is that these contexts can be thought of as nested within each other (like a set of concentric circles) such that each realm or context constitutes the context of the next. Specifically, the ecological realm constitutes the generative and sustaining context of the linguistically mediated human social realm and these two contexts in turn form the generative and sustaining contexts of the human-constructed realm. To put the matter starkly: no natural biophysical realm, no human social realm; no human social realm, no human-constructed realm.

This nested set of contextual relations enables us to see that each realm or context is to its wider realm or context as the individual items I considered in our second question were to their immediate context. Considered in this light, we can see that the priority ordering principle I established earlier of contextual responsive cohesion over individual examples of responsive cohesion has profound implications – implications that go well beyond the tame domestic and musical examples I have employed to this point for the sake of illustration. The first of these implications is that we should give overall priority to acting and making things in ways that are responsively cohesive with the largest responsively cohesive form of organization in which they can exist. For all practical, earthly purposes, the largest responsively cohesive form of organization in which the things we do and make can exist is the responsively cohesive functioning (which, in effect, is also to say the healthy functioning) of the planet's biophysical realm (or "nature" in general).[17]

This should not be taken to imply that we shouldn't, as is impossible anyway, interfere with or use the natural world at all – or go back to "living in caves" or some such simplistic kind of reaction; rather, we are as "entitled" as the next species to live out our lives in our own creative ways. But it is to say that we should seek to channel these creative capacities in ecologically sustainable ways, and here I would take the reduction of our contributions to greenhouse gases and the preservation of biodiversity to be crucial indicators of our success or otherwise. What is more, this "ecological context first" principle can at times warrant considerable modification of the biophysical realm in

[17] Although published some years ago, for an enlightening discussion of the principal normative concepts in conservation biology of "ecosystem health," "biodiversity," and "biological integrity," it is hard to beat J. Baird Callicott, Larry Crowder, and Karen Mumford, "Current Normative Concepts in Conservation," *Conservation Biology* 13, no. 1 (1999): 22-35.

the name of *enhancing* the responsively cohesive (which, again, is also to say the healthy) functioning of ecosystems through ecological restoration and rewilding projects.

Beyond this, we should seek to support responsively cohesive forms of organization within the human social realm including, most obviously, responsively cohesive forms of politics (which, in the modern context is essentially to say, democratic forms of politics) that are responsively cohesive with the healthy functioning of the ecological realm and that promote responsively cohesive societies *in that ultimate order of priority*. And beyond this, we should create a human-constructed realm including, most obviously, a built environment that is responsively cohesive with the ecological realm, the human social realm, and the human-constructed realm *in that ultimate order of priority*. Here, though, we must never forget that the ideal of good design is to aim for the preservation, regeneration, and creation of responsive cohesion at all levels.

VIII. Implementation: Thinking and designing in terms of responsive cohesion

How can we best implement these ideas in any given design situation? Thinking and designing in terms of responsive cohesion requires us to ask two basic questions:

a. What is the specific design objective under consideration?

b. How should we modify our initial design ideas in the light of the theory of responsive cohesion's normative theory of contexts?

I will consider these questions in turn.

a. What is the specific design objective under consideration?

This is straightforward enough. For example, our specific design objective might be to design an everyday object, such as a chair, cup, or book cover; to design a house or larger building; to design or redesign a streetscape, an urban park, or a larger urban development; to design a management strategy for a cultural landscape; to design a private garden or a larger garden to be enjoyed by the general public. From the perspective of the responsive cohesion approach, the question that follows in each case is: How can we best get our design to hold together, or cohere, by virtue of the mutual responsiveness between its parts? In other words, how can we make our design as responsively cohesive

as possible? If we achieve this, then our design, *considered in its own right* (and thus, non-contextually), will "sing;" it will be more "alive," more interesting, and more balanced, fair, or "true" than its alternative possibilities.

b. How should we modify our initial design ideas in the light of the theory of responsive cohesion's normative theory of contexts?

The theory of responsive cohesion's normative theory of contexts provides us with an argument for the ultimate priority of more encompassing responsively cohesive contexts over less encompassing responsively cohesive contexts. It is not an argument for the ultimate priority of any more encompassing context – such as a fixedly cohesive or a discohesive context – over any other less encompassing context, but rather an argument for the ultimate priority of more encompassing *responsively cohesive* contexts over less encompassing *responsively cohesive* contexts. As I argued earlier, if a context is not responsively cohesive, then a responsively cohesive item within that context trumps contextual considerations, since responsive cohesion is always better than no responsive cohesion.

Assuming we are dealing with responsively cohesive contexts, the theory of responsive cohesion's normative theory of contexts directs us, first and foremost, to note that any specific design problem we are dealing with will – for all earthly purposes at least – be situated within the biosphere. This has always been the case, but the fact that the theory of responsive cohesion explicitly emphasizes this means that this approach is in any case very much in tune with the needs of the times, since these are times in which humans are now violating the majority of the earth's "planetary boundaries" for a humanly habitable planet[18] and in which the multiplier effect of multiple ecological stresses triggering a nonlinear collapse of the systems we depend upon to survive would seem to be closer than we thought.[19] Once we recognize this and revise our design as (or if) appropriate in ways that respond to the overarching responsively cohesive context of the biosphere, we can then move on to consider more local ecological considerations.

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[18] Johan Rockstrom et al., "Safe and Just Earth System Boundaries," *Nature* 619 (2023): 102-111; see also the report related to this paper: Jonathan Watts, "Earth's Health Failing in Seven out of Eight Key Measures, say Scientists," *The Guardian*, May 31, 2023, https://www.theguardian.com/environment/2023/may/31/earth-health-failing-in-seven-out-of-eight-key-measures-say-scientists-earth-commission.

[19] Simon Willcock et al., "Earlier Collapse of Anthropocene Ecosystems Driven by Multiple Faster and Noisier Drivers," *Nature Sustainability* 6 (2023).

Ecological considerations – biospherical and more local – will be more relevant to some designs than others, but they are always there, and the responsive cohesion approach makes this explicit. For example, we always need to ask questions such as: What materials will be used? Where will they come from? What greenhouse gas emissions will our design generate, in both fabrication and on an ongoing basis? Does our design have implications for biodiversity? Can we do better in terms of minimizing the ecological impacts of our design (where, at the risk of labouring the point, "better" is understood, here and below, as better in terms of achieving more responsively cohesive outcomes)?

Within this (always responsively cohesive focused) ecological context we then come to the linguistically-mediated human social realm. Consideration of this realm generates its own set of questions, ranging from the practical to the symbolic. For example, practical questions will include all kinds of accessibility and ease of use issues, including broader questions around these too, such as how people are expected to reach the site – if it is a site – in the first place. In each case we want to ask: Can we do better? Questions at the symbolic level will be of the kind: What does this building/urban development/cultural landscape/public garden/book/website design say about us in terms of our practice and endorsement of the value of responsive cohesion? Can we do better?

Finally, we come to the human-constructed (or compound material) realm. Will our design be placed in an already responsively cohesive human-constructed context? If not, then so much the worse for the non-responsively cohesive context: we should add our responsively cohesive design since, as I noted above, some degree of responsive cohesion is always better than a lack of responsive cohesion. If, on the other hand, our design is to be placed in a responsively cohesive human-constructed context (e.g., a streetscape), then is it responsively cohesive with that context? If so, well and good; if not, can we modify it in the direction of being more responsively cohesive with that context? If the clash is just too great, then perhaps our (internally) responsively cohesive design nevertheless belongs elsewhere.

The aim, of course, is to achieve responsive cohesion at all levels, but when priorities clash – as they will in the real world – then this ecological, social, human-constructed ordering of nested contexts is the priority ordering that should hold sway relative to the responsively cohesive item that is being added to these contexts.

IX. The client and the designer

We should now be able to see that the theory of responsive cohesion's theory of contexts encourages us to cast our net more widely than many designers have been trained to do (and here I *am* primarily addressing professional designers, although the points being made still have a wider applicability). For example, in the case of building a house, the theory of contexts directs us to begin not with the client's wishes per se (from which we then work outward in terms of what is allowable under planning regulations and, perhaps, added to that, a side-order of some aesthetic considerations in regard to the immediate streetscape), but rather with the client's wishes considered *within the nested set of contexts advanced by the theory of responsive cohesions normative theory of contexts*.

From this perspective we can see that the besetting sin of many approaches to design problems is that they construe the problem situation too narrowly; too much in terms of human *centred* desires per se as opposed to human *initiated* projects that are sensitive to, and suitably modified by, wider biospherical, and then more local ecological, social, and human-constructed realm considerations. However, designers who are alive to this perspective will begin to see their task in these kinds of terms: just as a client's wishes must *inform* the designer's work, so the designer will in some cases need to play a positive, and sometimes frankly educative, role in helping their client to *re-form* their design wishes in such a way that the client still gets the essence of what they want, but does so in consultation with the designer's sensitivity to the wider ecological, social, and human-constructed contexts that encompass their proposal.

That said, it might occasionally be the client who takes the leading role in this collaboration by working to get their designer of choice to be as alive to these contextual concerns as they already are. On yet other occasions, it might be the case that the client and designer need to part ways over "irreconcilable differences" in addressing these issues. But then that has always been a risk when people try to work together towards what they individually think is a shared goal. We should acknowledge that different interests – sometimes fundamentally different interests – will come into play in any kind of collaborative work. But as a guide to and a container for discussions of these matters, I submit that the theory of responsive cohesion approach to the philosophy of design provides a powerful framework – an encompassing, normative framework – that enables designers to engage in construc-

tive dialogues within a solidly-grounded, shared, and accessible framework of meaning. The promise of this approach is that it will act as a stimulus and a guide towards the development of a world that is more responsively cohesive at the ecological, social, and human-constructed levels; a world that is more "alive," interesting, and balanced.

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