Making Things Up. By Karen Bennett

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Many philosophical discussions are about relations where an entity or some entities, in the most general sense of the terms, give rise others: two oxygen atoms give rise to the oxygen molecule they compose; Socrates and the number 2 give rise to the set they form, {Socrates, 2}; the facts that p is true and that q is true give rise to the fact that $p \land q$ is true. Bennett calls such relations "building relations". The central, and very ambitious, aim of *Making Things Up* is to present necessary and sufficient conditions for belonging to this 'unified family of building relations' (p. 2) and to give an account of the phenomenon of fundamentality with the means of building.

It is noteworthy how Bennett aims not to take sides in the disputes about particular building relations, for instance, whether there are composite objects, or under which condition some objects compose an object. On the one hand, it may appear that this leads to some unnecessary complications. It might be easier to argue against some views on a certain building relation, instead of complicating the notion of building in order to leave room for these

positions. On the other hand, it allows Bennett to keep her examination at a highly general level, which makes the book interesting for a wide range of readers. Overall, the book introduces and defends views which are original, sophisticated and well supported.

Chapter 1 consists in a careful introduction to the concept of building relations and the main claims of the book. It follows a non-exclusive list of building relations in chapter 2: composition, constitution, set formation, realization, microbased determination, and grounding. Due to the resemblances of these relations, they form a family of relations, though she argues against the view that they are merely kinds of a more general building relation.

In chapter 3, Bennett spells out what it is to be a building relation. A building relation is (i) *directed*, (ii) *necessitating*, and (iii) *generative* (p. 32, p. 60):

> A relation R *is a building relation* $=_{df}$
>
> (i) R is antisymmetric and irreflexive, and
>
> (ii) if x Rs y, then given some background conditions C, necessarily, if x and C occur/exist/obtain, then y occurs/exists/obtains, and
>
> (iii) if x Rs y, then x R-ing y legitimizes claims about y occurring/ existing/obtaining in virtue of x.

Most of this chapter is spent explaining and justifying the first two conditions, and only a little bit more than two pages are dedicated to condition (iii). This is surprising. Intuitively, legitimizing 'generative locutions like 'in virtue of"

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(p. 58) appears to be *the* characteristic feature of building relations. Additionally, condition (iii) seems to include the first condition: no x can legitimize claims about its own occurrence/existence/obtaining, and no two entities x and y can legitimize each others occurrence/existence/obtaining. Thus, the concepts of generative and building relations can only come apart if there are generative relations which are not necessitating. One may speculate whether there are any such relations, in particular because it is not fully clear what may legitimately count as the background conditions C which allow x to necessitate y.

Bennett goes on to argue that causation is a building relation in chapter 4. On the one hand, there are strong analogies between the discussions about causation and the other building relations, such as composition or grounding: Is it a fundamental relation? Is the relation well-founded? Is there an exclusion problem for the relation? On the other hand, some of the other building relations obtain in virtue of certain causal facts. In an appendix, objections to the claim that building relations can hold between entities which exist at different times are addressed.

Chapter 5 deals with the concept of absolute fundamentality. For Bennett, fundamentality is not a fundamental concept, but can be defined in terms of building: Some entity is absolutely fundamental, if it is not built by another. However, since there is no general but only different kinds of building relations, and for some entities these relations might hold in different directions, fundamentality has to be relativized to the different kinds of building relations. Thus, the Eiffel Tower is not fundamental with respect to the com-

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position relation, because it is composed by, i.e. built from, its parts, though it is fundamental with respect to the relation of set formation, since it does not have any members.

In chapter 6, the notion of relative fundamentality is defined. The basic idea is that a built entity is less fundamental than the entity or entities which build it. However, since there are different kinds of building, there are different ways an entity might be more fundamental than another entity, so that the notion of relative fundamentality has to be indexed accordingly. Moreover, it has to be taken into account that (ii) a building chain might not terminate, (iii) some building relations might not be transitive, (iv) absolutely fundamental$_R$ entities are more fundamental$_R$ than entities on a building$_R$ chain which does not terminate, and (v) an entity can be more fundamental$_R$ than another, even if the two entities are not related by the appropriate building relation R, such as a hydrogen atom in Phoenix and a water molecule in Ithaca. This leads to the following definition (p. 161):

> *x is more fundamental$_R$ than y* $=_{df}$
>
> (i) x is fewer building$_R$ steps away from the fundamental$_R$ entities that terminate its unique chain than y is from the fundamental$_R$ entities that terminate its unique chain.
>
> (ii) x at least partially builds$_R$ y
>
> (iii) x stands in the ancestral of the building$_R$ relation to y
>
> (iv) x is absolutely fundamental$_R$ and y is not,
>
> (v) x belongs to some kind K and y belongs to some kind K^* such that

(a) neither K nor K^* includes both built$_R$ and unbuilt$_R$ members

(b) y does not belong to K and x does not belong to K^*

(c) K^*'s are typically or normally built from K's

Next, we encounter the question whether building relations are fundamental: If a builds$_R$ b, is there anything in virtue of which this is the case? Bennett denies this and defends an 'upwards anti-primitivism' (p. 192) about building: building relations obtain in virtue of the building entities; in other words, a builds b in virtue of a. Chapter 8 is a defense of the claim that there are nonfundamental entities against 'flatworldism' (p. 215), the view that reality has no structure, and that nonfundamentalia belong to metaphysics' domain of investigation.

Making Things Up explores many new metaphysical questions. Bennett presents a lot of interesting and thought-provoking ideas, and her awareness of methodological issues is exemplary. Although there will be disagreement about the correctness of the proposed answers, the fact that this book draws our attention to some still unexplored problems makes it a mandatory reading for metaphysicians and philosophers more generally. In addition, Bennett's remarkable style of writing and the many illustrative examples she uses make the book a pleasure to read.[1]