An organic unity is a complex value bearer, whose final value is not a simple function of the final values of its parts. Common to most alleged organic unities is that they appear to violate a principle of “monotonicity”. Letting $\bigcirc$ denote a suitable operation of “concatenation”, monotonicity states that for any value bearers $a$, $b$, and $c$, $a$ is better than $b$ just in case $a \bigcirc c$ is better than $b \bigcirc c$. Monotonicity is a necessary condition for additive measurement. Hence, the existence of organic unities seems to preclude the possibility of aggregating and measuring final value in a way similar to well-understood quantities like length and mass. This is a theoretical drawback, as regards not only our understanding of the value relations between parts and wholes, but also when it comes to formulating substantial axiological and normative theories.

However, some authors have suggested that monotonicity is compatible with the existence of organic unities, if we assume “conditionalism” about final value. Conditionalism is the view that an item’s final value may depend partly on its extrinsic properties. In contrast, “intrinsicalism” claims that final value is wholly determined by its bearer’s intrinsic properties. I shall argue that it is very doubtful whether conditionalism has any measurement-theoretical advantages over intrinsicalism.

The paper is organized as follows. In Sect. 1, some putative examples of organic unities are presented, and the import of the monotonicity condition is explained. Section 2 outlines a way for the conditionalist to reconcile acceptance of organic unities with a version of the monotonicity condition. If this reconciliation is successful, conditionalism may have the resources to combine additive measurement with organic unities. This would be an attractive feature of conditionalism, as compared to intrinsicalism. In Sect. 3 it is argued, however, that the conditionalist...
reconciliation is unlikely to succeed. Preserving monotonicity in the face of organic unities requires arbitrary and implausible value assumptions, or leaves us with a value structure that is too sparse for additive measurement to be possible. Section 4 briefly concludes.

1 Organic Unities and the Monotonicity Condition

The axiological literature abounds with purported examples of organic unities. To borrow a case from Roderick Chisholm, suppose that $a$ and $c$ are two exactly similar beautiful paintings, and that $b$ is a beautiful piece of music. Suppose also that the final value of contemplating $a$ is slightly greater than the final value of contemplating $b$. It nevertheless seems plausible that the whole consisting in the contemplation of $b$ and $c$ is finally better than the whole consisting in the contemplation of $a$ and $c$. Intuitively, the fact that $b \circ c$ offers more variation than $a \circ c$ is important. In Chisholm’s words, “other things being equal, it is better to combine two dissimilar goods than to combine two similar goods”.

According to G. E. Moore, retributive punishment is another example of an organic unity. This whole has two parts, viz. the crime committed and the punishment suffered. Each of these parts is bad, according to Moore, but their combination is good “as a whole”, since it means that justice is carried out. Sven Danielsson has given a more compelling variant of Moore’s example, which does not hinge on retributivist intuitions. The whole consisting of Alf’s committing a crime and Alf being punished may be finally better (or less bad) than the whole made up of Beth’s committing a similar crime and Alf being punished, although Alf’s committing the crime is, in itself, equal in value to Beth’s committing the crime. Even non-retributivists can agree that punishing the innocent is worse than punishing the guilty.

Moore introduced the term ‘organic’ as a label for wholes of this kind, and he defined an organic unity as a whole whose value is not identical to the sum of the values of its parts. This definition has since become standard, although there are other suggestions in the literature. Some authors have pointed out that Moore’s definition presupposes the far from obvious assumption that values can be meaningfully added. I have myself argued that Moore’s definition is unfortunate for even more fundamental, measurement-theoretical reasons. Why, then, does Moore’s definition in terms of “sums” of values appear so natural for describing cases like Chisholm’s

4 Chisholm 1986: 70–71.
5 Moore 1903: 214. This view does not commit Moore to the implausible claim that the whole consisting of the crime and the punishment is good “on the whole”. That is to say, this whole need not make the world better than it would have been if neither the crime nor the punishment had occurred.
6 Danielsson 1997: 32.
7 Moore 1903: 36. Moore uses the terms ‘organic unity’ and ‘organic whole’ interchangeably. In some places, he provides a similar but not equivalent definition, without commenting on the difference between the two definitions. In (Carlson 2015) I discuss this, as well as how to understand the terms ‘part’ and ‘whole’ in this connection.
8 Carlson 2015, section 1.
and Danielsson’s? The explanation, I believe, is that the relevant wholes seem to involve violations of precisely those structural properties that characterize addition. One such property is that \( x > y \) if and only if \( x + z > y + z \). This property obviously corresponds to the monotonicity condition. Letting \( F \) be the attribute to be measured, and letting \( > \) stand for “\( F \)-er than”, the monotonicity condition can be more generally formulated like this:

**Monotonicity:** \( a > b \) if and only if \( a \circ c > b \circ c \).

Monotonicity is necessary for it to be measurement-theoretically meaningful to add values, and to claim that something’s value is identical to the sum of the values of certain other items.\(^9\) Additive measurement presupposes that there is a real-valued function \( f \), such that, for all items \( a \) and \( b \), (i) \( f(a) > f(b) \) if and only if \( a > b \), and (ii) \( f(a \circ b) = f(a) + f(b) \). Conditions (i) and (ii) cannot be jointly satisfied unless monotonicity holds. For suppose that \( a > b \) but \( b \circ c > a \circ c \). Condition (i) then requires that \( f(a) > f(b) \) and \( f(b \circ c) > f(a \circ c) \), while (ii) requires that \( f(a \circ c) = f(a) + f(c) \) and \( f(b \circ c) = f(b) + f(c) \). These assumptions are obviously inconsistent.

If there is a function \( f \), satisfying conditions (i) and (ii), another function \( g \) satisfies these conditions just in case \( g \) is a “similarity transformation” of \( f \). This means that there is a real number \( x > 0 \), such that for all items \( a \), \( g(a) = xf(a) \). In other words, we obtain an additive ratio scale.\(^{10}\) On such a scale, the value of a complex item is always represented as the sum of the values of its parts, and statements about ratios between items are meaningful. Length, mass and volume are examples of attributes that are measured on an additive ratio scale.\(^{11}\)

Most alleged examples of organic unities can, I believe, be formulated as counterexamples to monotonicity. Hence, an organic unity can arguably be defined as a whole that involves a violation of monotonicity.\(^{12}\) At least, this definition seems reasonable if we, like Moore, assume intrinsicalism. That is to say, all final value is *intrinsic* value, in the sense that it wholly depends on intrinsic, non-relational properties of its bearer.\(^{13}\) According to intrinsicalism, an item’s final value cannot vary, depending on what whole it is a part of.

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\(^9\) Such a claim is “meaningful” if it is either true in all numerical representations that correctly mirror the relations between the relevant items, or else false in all such representations. (See, e.g., Roberts 2009, chapter 2.) If there is a representation \( f \), such that \( f(a) = 3 \), \( f(b) = 2 \), \( f(a \circ b) = 5 \), and another representation \( g \), such that \( g(a) = 4 \), \( g(b) = 3 \), \( g(a \circ b) = 5 \), then the statement that the value of \( a \circ b \) is the sum of \( a \)'s and \( b \)'s values is not meaningful. This is because the statement is true in \( f \) but false in \( g \).

\(^{10}\) See Krantz et al. 2007, chapter 3.

\(^{11}\) Such attributes are often called “extensive.”

\(^{12}\) I have suggested this definition myself (Carlson 1997).

\(^{13}\) Moore did not distinguish between intrinsic and final value, probably because he assumed that these two kinds of value always coincide.
2 Conditionalism and Additivity

Intrinsicalism is, however, far from universally accepted. The rival, conditionalist view has it that final value can partly depend on extrinsic properties. Conditionalism thus implies that an item’s final value may vary, depending on what whole it is a part of. If conditionalism is true, it is not obvious that typical examples of organic unities involve violations of monotonicity. In Chisholm’s case it may appear as if $a > b$ and $b \odot c > a \odot c$. But the conditionalist could maintain that this description of the case is mistaken. The fact is, she may claim, that the final value of $b$ increases, in relation to that of $a$, when $b$ is a part of $b \odot c$, so that $b > a$. If this is correct, monotonicity is not violated, since the situation in which $a > b$ is different from that in which $b \odot c > a \odot c$. What characterizes an organic unity, the conditionalist could claim, is precisely that the final value of a part depends on the whole in which it is included.14

Moore called his principle of organic unities a “paradox”, and many seem to share the intuition that it must be possible to derive the value of a whole from the values of its parts. Conditionalism appears to offer a way of combining this intuition with the plausible value assumptions underlying many examples of organic unities.15 Although a conditionalist who accepts organic unities allows the value of a part to depend on the whole, she can insist that the value of a whole is always a function of the values its parts have within that whole. If monotonicity can be preserved, it might be possible to aggregate and measure final value in a way similar to the measurement of length and mass.16 This would be a considerable theoretical benefit, since it would make for simple value relations between parts and wholes and, perhaps even more importantly, facilitate the formulation of substantial axiological and normative theories. (Maximizing consequentialism is the standard example of a normative theory presupposing that final value can be additively measured.) Conditionalism thus may seem to have an advantage over intrinsicalism.17

In order to assess whether conditionalism really has such a measurement-theoretical advantage, we must try to formulate the sketched conditionalist attempt to reconcile monotonicity and organic unities a bit more precisely. Let $S_1, S_2, \ldots$ stand for possible situations, differing only with respect to which simple and complex value bearers that obtain. We may distinguish between two versions of monotonicity, the former of which is logically stronger than the latter:

$I$-monotonicity: If $a > b$ in some $S_i$, then $a \odot c > b \odot c$ in all $S_j$. And if $a \odot c > b \odot c$ in some $S_i$, then $a > b$ in all $S_j$.

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14 It is doubtful, however, whether all kinds of context dependence can plausibly be classified as instances of organic unity. See Carlson 2015, section 4.
15 This has been pointed out by H. J. Paton 1942: 125, and by Jonas Olson 2004: 43.
16 Of course, additive measurement presupposes other structural conditions, besides monotonicity. See Krantz et al. 2007, chapter 3.
17 But see Danielsson 1997, for an interesting proposal about how to combine organic unities, violating monotonicity, with additive measurement, within an intrinsicalist framework. Michael Zimmerman (2001) argues that we can deny the existence of organic unities, and preserve monotonicity, while accommodating many of the intuitions that underlie alleged examples of organic unities.
**K-monotonicity:** For all $S_i$, $a > b$ in $S_i$ if and only if $a \circ c > b \circ c$ in $S_i$.

Assuming intrinsicalism, the distinction between $I$- and $K$-monotonicity is unimportant, since value relations do not vary across situations. An item’s final value never depends, according to intrinsicalism, on what other value bearers obtain. Hence, the intrinsicalist must either accept both $K$- and $I$-monotonicity, or reject both conditions. The conditionalist, on the other hand, may claim that organic unities are incompatible with $I$-monotonicity, but compatible with $K$-monotonicity. In Chisholm’s example, the conditionalist could suggest that $b > a$ and $b \circ c > a \circ c$ hold in situations where $b \circ c$ obtains. In other situations, it holds that $a > b$ and $a \circ c > b \circ c$. This means that $I$-monotonicity, but not $K$-monotonicity, is violated. If the conditionalist can show also that additive measurement only presupposes $K$-monotonicity, but not $I$-monotonicity, she has shown that conditionalism has a considerable advantage over intrinsicalism.

### 3 Problems with the Conditionalist Solution

A problem with the strategy just outlined is that preserving $K$-monotonicity presupposes arbitrary, and sometimes implausible value assumptions. In Chisholm’s case, $K$-monotonicity requires that $b$’s value increases, in relation to $a$’s, when $b \circ c$ obtains. This assumption seems unwarranted. Why not suppose, instead, that it is the value of $c$ that increases, so that $b \circ c > a \circ c$, although $a > b$? Or why not suppose that the value of $c$ decreases when $a \circ c$ obtains? This likewise implies that $b \circ c > a \circ c$ and $a > b$, in violation of $K$-monotonicity. It is hard to see any reason to make the first assumption, rather than one of the latter, except the desire to save $K$-monotonicity.

This problem is accentuated in the crime and punishment example. Let $a$ stand for Alf’s committing a crime, let $b$ stand for Beth’s committing the same kind of crime, and let $c$ stand for Beth’s being punished. The conditionalist wants to claim that $a$ and $b$ are equal in value in a situation where nobody is punished, but that $b \circ c > a \circ c$ in a situation where Beth is punished. $K$-monotonicity then requires that $b > a$ in the latter situation. But it does not appear very plausible to suggest that Beth’s being punished makes her crime less bad than Alf’s. A more reasonable assumption is that the two crimes are equally bad also in this situation, but that $b \circ c > a \circ c$, since Beth’s punishment is less bad if it is combined with her crime, than if it is combined with Alf’s. This is incompatible with $K$-monotonicity. Thus, the assumptions required by $K$-monotonicity appear not only arbitrary, but also less plausible than alternative assumptions that violate this condition.

Further problems appear regarding the values of complex value bearers in situations where they do not obtain. In the crime and punishment case, we have assumed that $a$ and $b$ are equal in value in the situation where nobody is punished. If

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18 A similar objection to the possibility of combining conditionalism and additivity is raised by Ben Bradley 2002: 37.
$K$-monotonicity is to hold, $a \circ c$ and $b \circ c$ must then also be equal in value in this situation. But this seems wrong. The intuition that $b \circ c > a \circ c$ is not conditional on somebody actually being punished. A possible reply, on part of the conditionalist, is that only the value bearers that obtain in a given situation have any value in this situation. In situations where $a \circ c$ and $b \circ c$ do not obtain, therefore, the question of how these items are evaluatively related does not appear. This means that the monotonicity condition must be weakened even further:

$K^*$-monotonicity: For all $S_i$, such that $a, b, a \circ c$ and $b \circ c$ obtain in $S_i$, $a > b$ in $S_i$ if and only if $a \circ c > b \circ c$ in $S_i$.

This solution is rather drastic, since we normally assume that we can make value comparisons between value bearers that do not all obtain. Consider incompatible value bearers. It is quite natural to maintain that it is better that $p = \text{Cecil is happy at time } t$, than that $q = \text{Cecil is unhappy at } t$. If only obtaining states of affairs have value, the claim that $p$ is better than $q$ is not true in any situation, since there is no situation where $p$ and $q$ both obtain. One could avoid this conclusion by suggesting that the statement, that $p$ is better than $q$, should be understood as the statement that $p$’s value in a situation where $p$ obtains is greater than $q$’s value in a situation where $q$ obtains. But if value comparisons involving non-obtaining value bearers are analyzed along these lines, it is doubtful whether the conditionalist can rescue the required version of monotonicity, by assuming that only obtaining value bearers have value. This is because the analysis presupposes that values can be compared across situations. We must be able to compare the value of $p$, in a situation where $p$ obtains, with the value of $q$, in a situation where $q$ obtains. This requires a “transsituational” scale, assigning values not only within, but also across situations. The problems with the monotonicity condition, which the restriction to obtaining value bearers was meant to avoid, then reappear.

If there is no transsituational scale, on the other hand, the assumption that only obtaining value bearers have value will often imply that the concatenation structure is too sparse for additive measurement to be possible. The simplest additive structures require that $\circ$ is a closed operation; that is, all pairs of items in the domain can be concatenated. There are more complicated structures that do not presuppose that $\circ$ is closed, but also these structures contain a large number of concatenations. It is easy to see that a rich concatenation structure is necessary for additivity to hold. Suppose that we have three atomic items, $a$, $b$, and $c$, and that $b \circ c$ is the only obtaining concatenation. The value ordering of these items is, say, $b \circ c > a > b > c$. It is obvious that there are representations $f$ that preserve this ordering, but in which $f(b \circ c) \neq f(b) + f(c)$. The assumption that only obtaining value bearers have value, in a given situation, thus rules out that the conditions for additive measurement are satisfied in every situation.

19 If $p$ and $q$ have different values in different situations where they obtain, the analysis must single out one or more of these situations, as the relevant one(s) for the comparison.

20 See Krantz et al. 2007, chapter 3.
4 Conclusion

The existence of organic unities appears incompatible with the monotonicity condition, which is essential for additive measurement. Conditionalism about final value may seem to offer a way of saving monotonicity. However, this conditionalist attempt to reconcile organic unities with additive measurement faces several difficulties. The idea presupposes seemingly arbitrary and sometimes implausible value assumptions. Some of these dubious assumptions can perhaps be avoided, if only obtaining value bearers are assigned value. But this yields a structure violating other necessary conditions for additive measurement. These problems indicate that conditionalism hardly has any measurement-theoretical advantages over intrinsicalism.21

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