In this chapter, I present and ultimately reject four possible objections against transcendentalism. By replying to them I do not only offer a necessary defence of the view, but I also hope to better clarify its contents. In particular, the first three objections accuse transcendentalism to make things ontologically dependent (§1), abstract (§2), and temporally rigid (§3) – i.e. necessarily present at the time in which they are actually present. In answering to them, Ishall show that transcendentalism is silent about such issues, and hence is compatible with a view of things according to which they are ontologically fundamental, concrete, and non temporally rigid – a view that I take to be independently plausible. As regards the fourth objection, it deserves a separate consideration. Transcendentalism says that things are not located in time. But if they are not located in time – the objection goes – they are not located in space either. But things are located in space. Hence transcendentalism must be false (§4). Transcendentalism is in itself silent about the question whether things are located in space. In replying to the fourth objection, I shall present two alternative versions of the view that differ in the answer that they give to this question. According to a first version, things are located in space but not in time. This version of transcendentalism - I shall show – is committed to a view on space and time that is intuitive, but is problematic with respect to special relativity (SR). The aim of reconciling this intuitive view with SR is
not hopeless, but demands to abandon the canonical interpretation of SR in terms of Minkowski spacetime, and embrace non-standard interpretations of SR, like Neo-Lorentzian or fragmentalist ones. According to a second possible version of transcendentism, things are neither located in time, nor in space or, better, they are not located in spacetime. This version is perfectly compatible with the canonical interpretation of SR, but seems not to fit perfectly with our intuitions, that want things to be located in space. Still, one can try to make the bullet more tender to be bitten, e.g. by arguing that the idea that things are not located in space is not totally counterintuitive, after all. I shall briefly develop both alternatives, without officially committing myself to one of them. I think that both are interesting paths to follow. In this chapter, I present and ultimately reject four possible objections against transcendentism. By replying to them I do not only offer a necessary defence of the view, but I also hope to better clarify its contents. In particular, the first three objections accuse transcendentism to make things ontologically dependent (§1), abstract (§2), and temporally rigid (§3) – i.e. necessarily present at the time in which they are actually present. In answering to them, I shall show that transcendentism is silent about such issues, and hence is compatible with a view of things according to which they are ontologically fundamental, concrete, and non temporally rigid – a view that I take to be independently plausible. As regards the fourth objection, it deserves a separate consideration. Transcendentism says that things are not located in time. But if they are not located in time – the objection goes – they are not located in space either. But things are located in space. Hence transcendentism must be false (§4). Transcendentism is in itself silent about the question whether things are located in space. In replying to the fourth objection, I shall present two alternative versions of the view that differ in the answer that they give to this question.
According to a first version, things are located in space but not in time. This version of transcendentism - I shall show – is committed to a view on space and time that is intuitive, but is problematic with respect to special relativity (SR). The aim of reconciling this intuitive view with SR is not hopeless, but demands to abandon the canonical interpretation of SR in terms of Minkowski spacetime, and embrace non-standard interpretations of SR, like Neo-Lorentzian or fragmentalist ones. According to a second possible version of transcendentism, things are neither located in time, nor in space or, better, they are not located in spacetime. This version is perfectly compatible with the canonical interpretation of SR, but seems not to fit perfectly with our intuitions, that want things to be located in space. Still, one can try to make the bullet more tender to be bitten, e.g. by arguing that such counterintuitiveness is inherited from the one that is already present in the canonical interpretation of SR, or by arguing that the idea that things are located in space is not intuitive, after all. I shall develop both alternatives, without officially committing myself to one of them. I think that both are interesting paths to follow, and I cannot decide which one is more appealing.

1 The fundamentality objection

Standard lore has it that between events and things the latter wear the metaphysical trousers: things are more fundamental than events. However – a first objection goes – transcendentism necessitates the opposite. Hence, transcendentism is false. My feeling is that transcendentism is completely silent on the fundamentality issue, and so is compatible with all options, viz. events being more, less, or equally fundamental than events. In what follows, by way of example I shall show that three possible inferences from transcen-
dentism to the fundamentality of events are simply unsound, and assume that my feelings are correct – at least until proven otherwise. But before getting into the analysis of the three inferences: what does it mean for the Fs to be more fundamental than the Gs? I think that fundamentality has to do with existence *simpliciter*. More precisely, I think we can say that the Fs are more fundamental than the Gs in two cases, either when the existence of the Gs is reduced to some facts about the Fs, or when the existence of the Gs is metaphysically grounded in some facts about the Fs. What is the difference between reduction and metaphysical grounding? Basically, the idea is that a grounding claim explains a fact, whereas a reduction claim it explains away. In other words, grounding is factive on both sides, whereas a reduction is factive only on the side of the reducee and not on that of the reduced (ROSEN; SKILES).

A first reason why one might think that transcendentism makes events fundamental, is because it reduces the existence at a time of a thing to some facts involving events. Still, there is a clear equivocation in this line of reasoning. It is true that transcendentism reduces existence at a time, but fundamentality has nothing to do with existence at a time. Rather, it has to do with existence *simpliciter*. In Chapter 2, we gave some strong reasons to think that existence *simpliciter* is crucially different from existence at a time:

(i) Existence *simpliciter* is usually taken to be second-order, whereas existence at a time is first-order.

(ii) Existence *simpliciter* is monadic and tenseless, whereas existence at a time is either a relation or tensed.

Given this difference, the inference is invalid because it rests on a clear case of equivocation.
A second possible inference goes as follows. Things exist *simpliciter* only by existing at a time. But transcendentism reduces existence at a time to some facts involving events. Hence, transcendentism also reduces existence *simpliciter* to such facts involving events. Let us give formal clothes to this inference. First, for ease of reading, let us introduce a predicate for existence *simpliciter*

\[ E!x \quad \text{for "} x \text{ exists } \text{simpliciter}" , \]

and define it in the usual way:

[D1] \[ E!a := \exists x(x = a) \]

Then, let us formalize the principle introduced by the inference:

[1] \[ \Box(E!x \equiv \exists t(WE(x,t))) \]

In words, things exist simpliciter only if the exist at a time.

Transcendentism implies that, necessarily, a thing exists at a time iff it participates to an event that is located at that time. (The necessity is given by the fact that transcendentism reduces one fact to the other, and every reduction generates a necessary biconditional).

[2] \[ \Box(\exists t(WE(x,t)) \equiv \exists e(P(x,e) \land e@t)) \]

By logic, [1] and [2] imply that, necessarily, a thing exists iff it participates to an event:
\[ \Box (E!x \equiv \exists e (P(x, e))) \]

[3] sounds correct. The inference now has to go from [3] to the claim that the existence of a thing is either reduced to or grounded in the fact on the right in [3]. What principle could lead to this conclusion? Here is a first option:

\[ \Box (\varphi \equiv \psi) \rightarrow \varphi \text{ is grounded or reduced to } \psi \]

But [4] is clearly false, and it is quite easy to show that it is. A first way to do this is as follows. Take two necessarily equivalent propositions \( p \) and \( q \). By [4] one can infer that \( p \) reduces to, or is grounded in, \( q \). But since equivalences are symmetric, you can also deduce the reverse, i.e. that \( q \) reduces to, or is grounded in, \( p \). Still, grounding and reduction are asymmetric: if \( p \) grounds or reduces \( q \), \( q \) cannot ground or reduce \( p \) (CIT). A second way to falsify [4] is by take a true proposition \( p \). By [4] one can infer that \( p \) is grounded in or reduces to itself. But grounding and reduction are strongly irreflexive: it is never the case that \( p \) grounds or reduces to itself (CIT). Hence [4] is invalid.

Is there another principle in the vicinity of [4] that is able to take us to the fundamentality of events? Let us try with the following one:

\[ ((\Box (\varphi \rightarrow \psi) \land \Diamond \neg (\psi \rightarrow \varphi)) \rightarrow \varphi \text{ is grounded or reduced to } \psi \]

If we assume the additional – and of course highly controversial – claim that events can exist without having participants, we can
conclude that necessarily, the existence of things implies the existence of events, whereas the contrary does not hold. By [4*], this would mean that events are really more fundamental than things.

Nevertheless, [4*] is again clearly false. Suppose there are entities that exist by necessity. My existence would necessarily imply theirs (because implications with true consequents are always true). And [4*] would make it the case that my existence is grounded or reduced to any necessarily existent entity, like e.g. the number 2 (CORREIA 2005). [4*] has to be false.

All considered inferences from transcendentism to the fundamentality of events failed. There might be a valid way to run this inference. Still, I cannot see one. And I take the failure of all inferences considered as evidence that transcendentism does not imply that events are more fundamental than things, at least until proven otherwise.

2 The no-contingency objection

Plausibly, the time at which a thing exists is contingent: even if a thing actually exists at a time \( t \), it could well not have existed at that time. Transcendentism defines existence at a time in terms of location and participation. Now, the temporal location and the participants of an event are 'essential' to it: an event necessarily has the participants and the location it has. As a consequence, transcendentism makes existence at a time necessary as well.

Let us have a closer look to this objection. Let us suppose that the temporal existence of a thing is actually contingent, and that we can express this contingency in modal terms, as follows:
In terms of possible worlds, this means that there is an accessible\(^1\) world \(v\) in which it is the case that \(x\) does not exist at \(t\).\(^2\) Transcendentism says that existence at a time reduces to participation and location:

\[
\text{[Tr]} \quad E(x, t) := \exists e(P(x, e) \land e \circ t)
\]

The argument assumes that the time and the participants of events are essential to them. One might think to formalize such principles as follows:

\[
\text{[E1]} \quad e \circ t \rightarrow \Box e \circ t
\]

\[
\text{[E2]} \quad P(x, e) \rightarrow \Box P(x, e)
\]

With these four principles on board, we can easily derive a contradiction. Let us suppose that a thing \(x\) exists at a time \(t\). By transcendentism, this means that there is an event \(e\) in which it participates and that is located at that time. By [E1] and [E2], such event has necessarily \(x\) as participant, and is necessarily located at

---

\(^1\)It is technically crucial noting that if we choose to express contingency as in [C], we are interpreting the accessibility relation to bring from the actual world to all metaphysically possible worlds.

\(^2\)Let us assume for the sake of the argument that the temporal structure of all accessible worlds is the same.
t. By transcendentism again, this means that \( x \) necessarily exists at \( t \), which is in contradiction with \([C]\). In symbols:

\[
\begin{align*}
(1) \quad E(x, t) & \quad H \\
(2) \quad \exists e(P(x, e) \land e @ t) & \quad (1), [\text{Tr}] \\
(3) \quad P(x, e) \land e @ t & \quad (2), \exists \text{-El} \\
(4) \quad \Box P(x, e) & \quad (3), [\text{E2}] \\
(5) \quad \Box e @ t & \quad (3), [\text{E1}] \\
(6) \quad \Box P(x, e) \land \Box e @ t & \quad (4), (5), \land \text{-I} \\
(7) \quad \Box (P(x, e) \land e @ t) & \quad (6), \Box \text{-I} \\
(8) \quad \Box (\exists e(P(x, e) \land e @ t)) & \quad (7), \exists \text{-I} \\
(9) \quad \Box E(x, t) & \quad (8), [\text{Tr}] \\
(10) \quad \bot & \quad (9), [\text{C}] \\
\end{align*}
\]

One out of the four principles has to be dropped and, according to the objector, it must be transcendentism.

I suspect the problem does not lie in transcendentism. In fact, even without assuming transcendentism, it is still possible to derive a contradiction that is very similar to it. In place of transcendentism, we assume the weaker and I think unobjectionable claim that no event can occur to a thing at a time without the thing existing at that time:

\[[E3] \quad \Box (\exists e(P(x, e) \land e @ t)) \rightarrow E(x, t)\]

And here is how the contradiction follows. Suppose that a thing \( x \) exists at a time \( t \), it does so contingently, and it participates at that time to an event \( e \). By \([E2]\) the event \( e \) will be located at \( t \) in all accessible worlds, and by \([E1]\) will have \( x \) as a participant in all such worlds. However, by \([E3]\) this means that in all such worlds \( x \) exists in \( t \) which is in contradiction with the hypothesis that \( x \) exists at \( t \) contingently. In symbols:
Since dropping transcendentism would not be of any help, the problem lies somewhere else. I suspect that it lies in the two essentiality principles, or rather in their formal rendering proposed above. The essentiality principles were meant to capture relatively modest intuitions about events and their modal profile. Nevertheless, if formalized as in \[E1\] and \[E2\], they imply consequences that are far beyond their motivating intuitions. For example, they immediately imply that the domain of events and things is constant in all possible worlds. In fact, \[E1\] implies that if an event actually exists, it does so necessarily, and \[E2\] implies that if an event exists necessarily, so does its participant. Even worse, the two principles imply a form of determinism. Since the domain of events and things is constant across worlds, and the temporal location of such events is also constant across possible worlds, it follows that all possible worlds have the same history, i.e. the same events occur to the same things in all possible worlds.

I do not think that such consequences make part of the original intuition behind the essentiality principles. No defender of the essentiality principles thought that they implied the truth of determinism. This, I think, speaks more against the formal rendering given in \[E1\] and \[E2\] rather than against the essentiality principles.
themselves, because – I think – we can still make sense of them in a way that does not have such unwelcome consequences. For example, we can save the essentiality principles by conditionalizing them to the existence of events. In other words, times are essential to events in the sense that if an event is located at that time, it will be located at that time in all worlds where it exists:

\[ [E1^\ast] \ e \in t \rightarrow \Box (E \mid e \rightarrow e \in t) \]

Similarly, participants are essential to events in the sense that if an event has a given participant, it will have that participant in all world where it exists:

\[ [E2^\ast] \ P(x, e) \rightarrow \Box (E \mid e \rightarrow P(x, e)) \]

These new formulations capture – I think – the original spirit of the essentiality principles. According to them, it is not possible for an event to exist at a world different from ours and to have a different temporal location, or different participants from the actual ones. Still, they do not have the unwelcome consequences of their first symbolic formulations.

However, in a similar vein they do not trigger the no-contingency objection anymore. In fact, [E1^\ast] and [E2^\ast] do not exclude the existence of worlds where a thing participates in different events from the actual ones. Since they are numerically different from the ones to which the thing participates in the actual world, they can be located at different times. As a consequence, the times at which things exist can vary from world to world, and hence they are still contingent. The no-contingency objection shares the destiny of its false premises: once the latter are dropped, the former fades away with them.
3 The abstractness objection

The abstractness objection goes as follows. (i) Things are concrete, (ii) but transcendentism makes them abstract. As a consequence, transcendentism is false.

Are things concrete (i)? And does transcendentism make things abstract (ii)? The truth values of (i) and (ii) depend, of course, on the meaning assigned to the concrete/abstract dichotomy. In the contemporary scenario there seems to be no collective consensus on how to define such a dichotomy. Still, we seem to be in clear about the paradigmatic cases that such definitions should capture: everyone takes things to be the paradigms of concreteness and numbers to be that of abstractness (QUINE and GOODMAN 1947; LEWIS 1986; ROSEN & BURGESS 1997; ROSEN 2001). If that is the case, it seems that the abstractness objection turns out to be a non-starter. Things are the paradigm of concreteness – hence (i) is true –, and exactly because they are the paradigms of concreteness, there must be a sense of concreteness – if at all – in which things turn out to be concrete, no matter what you say about them – hence (ii) is false. In other words, if definitions do not capture paradigmatic cases, worse for the definitions, not for the paradigms.

A more charitable reading of the objection goes as follows. Forget about the fact that things are the paradigms of concreteness, and focus on the ways in which the dichotomy has been defined in the history of philosophy. There is at least one sense of concreteness and abstractness – the objection goes – according to which:

(i*) things should be concrete, but

(ii*) transcendentism implies that they are abstract.
In order to check whether this is the case, we simply have to go through the different ways in which the dichotomy has been defined, and check whether one of such definitions makes both (i*) and (ii*) true.

There is a number of ways in which the concret/abstract dichotomy has been defined. In what follows, I shall consider seven of these ways, and check whether they make both (i*) and (ii*) true. The process is going to be a bit laborious, but not excessively hard to follow.

A first definition conflates concreteness and ontological independence (LOWE 2001). As I said in section § 1, I think that transcendentism is compatible with the idea that things are ontologically fundamental, and hence it does not make things abstract in this sense.

According to a second possible definition, to be concrete simply is to be particular, while to be abstract simply is to be universal (LEWIS 1986; ROSEN & BURGESS; ROSEN 2001; this is the way in which the term is used e.g. in QUINE 1953). Also this second definition constitutes no threat to transcendentism, since it does not say that things are universals.

Another option is to trace the line in modal terms. According to ZALTA (1983) entities are abstract when they are merely possible, i.e. they do not exist in the actual world, but they could. Still, nothing in transcendentism seems to imply that things do not exist in the actual world, on the contrary.

A fourth way is to identify concreteness and perceivability (FREGE 1884; ROSEN & BURGESS). One could cast some doubt on the idea that we perceive things directly, or properly speaking. Still, if there is a sense in which we do perceive things, there seems to me to be no reason to think that transcendentism makes things unperceivable in that sense.
A fifth way says that concrete entities are those that are causally efficacious (LEWIS 1986; ROSEN & BURGESS 1997; LOWE 2005; ROSEN 2001). One might think that things are causally efficacious – a claim with transcendentism seems to be perfectly compatible. But this seems not to be the most popular view. In fact, it might be doubted that properly speaking things have causal powers. The relata of causation – the popular view goes – are events, and not things. Suppose that this view is true: things do not have causal powers directly. Does that mean that things are abstract in this sense of the term? The philosophical community insist strongly on the negative: even if the relata of causation are events, there still is a sense in which things have causal powers, i.e. in participating in them. In other words, events have causal powers directly and properly, but also things have causal powers – no matter if only in a derivative sense. I will try to be more cautious here, and distinguish two senses of concreteness. According to a first sense, \( x \) is concrete iff it has causal powers directly, while according to a second one, \( x \) is concrete iff it has causal powers directly or derivatively. Does one of these two senses make both (i*) and (ii*) true? I do not think so. In the derivative sense, (ii*) looks false: there is no sense in which transcendentism deprives things from their derivative causal powers. And in the strict sense, it is (i*) that looks false: things do not have causal powers directly. Hence, none of the two definitions allows to run the abstractness objection.

Another way to define the concrete/abstract dichotomy, which is probably the most relevant here, has to do with space and time. According to this way, \( x \) is concrete iff it is spatiotemporal (LEWIS 1986; GROSSMANN 1992; ROSEN & BURGESS 1997; ROSEN 2001; LOWE 2005). Here again, we can distinguish two senses – one direct and one indirect – of “spatiotemporal”. According to the first one, \( x \) is concrete iff it is present – no matter if directly or
derivatively – either in space or in time. According to the second one, \( x \) is concrete iff it is located – i.e. directly present – either in space or in time. And my reply here is similar to the one I gave in the case of causal powers. None of the two definitions allows to launch the abstractness objection. Checking this fact with the first definition is quite easy: it is part of the transcendentist doctrine that things are derivatively present in time. Hence, on this reading (i*) becomes false. What about the second? Transcendentism explicitly denies that things are located in time, hence making (ii*) true. Still, in this sense (i*) means that things are the kind of entities that are located in time. And here I protest: a good part of this thesis is devoted to show that it is neither natural nor philosophically fruitful to think that things are located in time. Hence, I think that in this second sense, (i*) counts as false.

Let me add some few words to this last reply. I think that when invoking the spatiotemporal way, philosophers typically think in terms of direct or derivative presence, not in terms of direct presence only. The thing is evident for example in LEWIS (1986):

> As for (...) the denial that abstract entitites are located, I object that by this test some sets and universals come out concrete. Sets are supposed to be abstract. But a set of located things does seem to have a location, though perhaps a divided location: it is where its members are. Thus my unit set is right here (...). If it is said that sets or universals generally are unlocated, perhaps we have a hasty generalisation.

It is also evident from the fact that other phenomena – change (LOWE 2005), or beginning and ceasing to exist (ROSEN & BURGESS
1997) – are considered sufficient for spatiotemporality. And there is a clear sense, defined in chapters XX XX, according to which transcendent things change, begin and cease to exist. Hence, I think that also this way of tracing the dichotomy, which seems to be the most promising and most popular, poses no problem to transcendentism.

A last way of making sense of the dichotomy is in terms of the operation called abstraction. According to this way, a thing is abstract when it is the result of such an operation, or when the concept of that thing is acquired through this operation (LEWIS 1986; ROSEN & BURGESS 1997; ROSEN 2001). But what is an abstraction? And what criteria can we assume to check whether the concept of \( x \) has been acquired through abstraction? I shall let aside the first question, which would lead us far from our aims, and focus on the second one. CAMPBELL, in his (1981) proposed a criterion to check whether an entity is abstract in this sense of the term. According to him, an entity is abstract in this sense iff the concept of it is a partial content of the concept of another entity, so that a complete description of the first is an incomplete description of the second. I do not think that this criterion is adequate. Take a thing and its parts. None is abstract, I would say. Still, there is a sense in which a complete description of a part is only an incomplete description of the whole. Another possible problem with this criterion is that it all depends on what does count as a complete description of an entity. For example, if a complete description of an entity includes also its extrinsic characters, it will probably coincide with a complete description of many others. Without a firm grasp on these issues, I think it is difficult to push the issue further. Anyway, I do not see how transcendentism would have any implication on the way in which we grasp the concept of a thing, or on the completeness of its description with respect to the description of other entities. As a consequence, I think that also this last sense of the dichotomy does
not seem to constitute a threat for transcendentism.

4 The spacetime objection

A fourth objection against transcendentism goes as follows. Transcendentism says that (i) things are not located in time. But (ii) if something is not located in time, it is not located in space either. Hence, transcendentism says that things are not located in space, and (iii) this is counterintuitive.

My answer is that the transcendentist should either block the inference from time to space, or bite the bullet.

Let us try to block the inference from time to space first. On what basis is this inference assumed? I suspect that it implicitly rests on a particular view of spacetime, which – following SKOW (man.)\(^3\) – I shall call the 4D view.

According to the 4D view, the fundamental units of spacetime are spacetime points\(^4\). Regions of time and regions of space are built from such spacetime points. In particular, an instant of time can be viewed as a mereological sum of simultaneous spacetime points, i.e. spacetime points that are at a zero temporal distance one from the other. Intervals of times are sums of such instants. The case of regions of space is similar, but the cutting is of course somehow orthogonal to that of time: minimal regions of space can be viewed as mereological sums of \textit{simulspatiuous} spacetime points, i.e. spacetime points that are at a zero spatial distance one from the other, and

\(^3\)There I think can be found the best description of the models of spacetime that follow. My description of such models is much in debt to it.

\(^4\)Or better, that is the case if spacetime is not gunky and is not made of extended simple regions
bigger regions of space are sums thereof. If we assume that every spacetime point is at a zero temporal and spatial distance from itself we can without any doubt conclude that, on the 4D view, every spacetime region is part both of a region of time and of a region of space. In fact, the entire fourdimensional manifold can be viewed either as the mereological sum of all times or of all spatial regions, and the two views are equivalent.

![Diagram](image)

Under the 4D view, the inference from spatial location to temporal location is easily secured. Suppose an entity \( x \) is weakly located at a region of space. This region of space is a spacetime region, and like any other spacetime regions is part of a region of time \( t \). But entities are always weakly located at superregions of their weak location – e.g. I am weakly located at my office, and hence at the building containing it, the city containing the building, and so forth. Hence, it turns out that \( x \) is also weakly located at \( t \). In symbols,
the 4D view has the following implication (remember that t, t', ... range over times and p, p', ... range over spaces):

[ST-1] \[\exists p(x@_op) \rightarrow \exists t(x@_ot)\]
[ST-2] \[\exists t(x@_ot) \rightarrow \exists p(x@_op)\]

By logic, the two principles also imply that:

[ST-3] \[\neg \exists t(x@_ot) \rightarrow \neg \exists p(x@_op)\]
[ST-4] \[\neg \exists p(x@_op) \rightarrow \neg \exists t(x@_ot)\]

and [ST-3] is exactly what was needed for the objection to go through: if something is not located in time, it cannot be located in space either.

The 4D view is popular nowadays. But it is not the only one. And it is by no means the most intuitive choice to take as regards the nature of spacetime. There is another view about spacetime, which can be called the 3+1 view (SKOW man.) and is much more close to our everyday understanding of the issue. According to this view, time and space are mereologically separated: no part of space is a part of time, and viceversa. Time is a one-dimensional line made up of instants, which are zero-dimensional points on that line; space is a three-dimensional plan made up of points of space, which are zero-dimensional as well. In this view, the inferences from spatial to temporal location and viceversa are unwarranted, because time and space do not overlap.
Figure 2.1: Space and Time on the 3+1 view

Hence, a first possible reply to the spacetime objection consists in embracing the 3+1 view of space and time.

One could even argue in favor of the 3+1 view on independent grounds. First of all, the 3+1 view is much more intuitive than the 4D view. There are plenty of ways to show that this is the case. For example, the 4D view is, from a geometrical point of view, revisionary: it turns out that instants are not zero-dimensional points (on a line), rather, they are three-dimensional hyperplanes (in a four-dimensional solid); and minimal regions of space are not zero-dimensional points (on a three-dimensional plan), rather, they are one-dimensional lines (in a four-dimensional solid). Apart from this geometrical oddities, there are also some mereological ones: in the 4D view, times and spaces overlap; the biggest time interval is made up of spaces, and the biggest space region is made up of times.

A possible problem with the 4D view is constituted by [ST-4]. This principle prevents anything to be located in time without being located in space as well. However, according to some philosophers, there are such entities. Consider for example abstract artifacts, like
the game of chess or a natural language. They have been invented or generated at a certain time, and did not exist before then. Still, there seems to be no precise place where the game of chess or the language are located. It is not a mere problem of vagueness in play here: to say that the game of chess is located here rather than there would sound as a category mistake. One could try to circumvent this problem by invoking derivative presence: even if the game of chess has no spatial location, it is derivatively present wherever and whenever someone plays or thinks of it. Still, a similar move seems to be more difficult in the case of mental episodes, which are often supposed to be located in time – because they are events – but not in space. Since in the 4D view nothing can be located in time without being located in space, a 4D viewer must find a suitable spatial location to assign to them as well.

If the 4D view has its problems, the 3+1 views is surely not immune from any. Probably, the most serious one is an alleged incompatibility with special relativity. Probably, the most striking consequences of special relativity, along with the relativity of simultaneity, are the phenomena of time dilation and length contraction: special relativity suggests that time and space distances are not absolute, but relative to frames of reference. One way of getting back to absolute distances is to assume the 4D view, and operate the needed adjustments in the construction of times and places. In this case, you still have absolute distance relations – i.e. distance relations that do not vary across frames of reference – even if such distances are neither temporal nor spatial, but spatiotemporal. This is basically the essence of Minkowski’s view on spacetime, which is a version of the 4D view and without doubt matches very well with special relativity. The question now is whether special relativity not only matches well, but also forces us to accept that particular version of the 4D view. I do not think so. After all, special relativity
was not originally formulated in a Minkowski spacetime setting, but in terms of space and time.

In fact, in the literature, there are at least two interpretations of special relativity that allow us to keep the 3+1 model. The first one is the Neo-Lorentzian interpretation (GRÜNBAUM 1973; CRAIG 2001), the second one is Fine’s fragmentalist interpretation (FINE 2005; 2006). The proper description of the two interpretations and their critical evaluation falls beyond the scope of this thesis, but, summarily, according to the Neo-Lorentzian interpretation, spatial and temporal distances are relative to frames of reference, but there is one preferred frame of reference, and hence an absolute time, while according to fragmentalist interpretation there is no preferred frame of reference, and each one generates a set of different 3+1 spatial and temporal frameworks, all of which are equally legitimate. Hence, both interpretations of special relativity allow for a 3+1 rather than a 4D spacetime. Still, of course one could think to have good reasons to stick to the official interpretation of special relativity, in that, for example, it gives a more unified explanation of the relativistic phenomena (BALASHOV AND JANSSEN 2003).

To conclude, the reply of the transcendentist to the spacetime objection will depend on her view on space and time. If her system features a 3+1 model, then she can simply block the inference from spatial to temporal location, and hold a first version of transcendentism, according to which things are not located in time but are located in space. On the other hand, if her system features a 4D model, this option is closed to her. Is she obliged in that case to drop transcendentism? Again, I do not think so. What she could still do is to bite the bullet, and accept that things are derivatively present not only in time, but in spacetime tout court. The disadvantage of this option is that it pushes us farer from our intuitions. Still, it might match well with a naive reading of the ontology of special relativity, in that it says that the principal occupiers of spacetime are events, rather than things. Also, the transcendentist can try to make the bullet more tender to be bitten. In chapter §4, I argued
that typically, contingent and temporally relative attributions of a property or a relation to things are reducible to the occurrence of an event. Along similar lines, one can think that also the spatial location of a thing - which is contingent and temporally relative - should be reduced to the occurrence of an event. I personally cannot decide which option I would follow, because both of them display advantages that I find desiderable. However, I think even without deciding between the two alternative version of transcendentism, the principal aim of the section is already achieved: transcendentism has enough resources to survive to the spacetime objection.