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WHAT WE TOGETHER CAN (BE REQUIRED TO) DO

Felix Pinkert

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In moral and political philosophy, collective obligations are promising “gap-stoppers” when we find that we need to assert some obligation, but can not plausibly ascribe this obligation to individual agents. Most notably, Bill Wringe and Jesse Tomalty discuss whether the obligations that correspond to socio-economic human rights are held by states or even by humankind at large.¹

The present paper aims to provide a missing piece for these discussions, namely an account of the conditions under which obligations can apply to loose collections of agents that do not qualify as collective agents in their own right. I first explain the notion of joint obligations of loose collections of agents (henceforth “collections”) as opposed to collective obligations of collections of agents that are collective agents in their own right (section 1), and argue that the conditions under which agents can jointly have obligations are the conditions under which they are jointly able to do what is required (section 2). I then build on Virginia Held’s seminal work on the (backward-looking) moral responsibility of “random collections” to develop such conditions for joint ability (sections 3 to 7). My discussion shows that collections of individuals can more easily be subject to moral obligations than previously assumed. It also shows that putative joint obligations need to be carefully time-indexed, and that it is largely an empirical question whether a given collection can be subject to a moral obligation to perform a given joint action at a particular time (section 8).

1 Collective obligation and joint obligation

Ascribing obligations to collections of individuals faces the following “agency objection”: Many collections to whom we may want to ascribe obligations, especially humankind at

1 Jesse Tomalty. “The Force of the Claimability Objection to the Human Right to Subsistence”. In: *Canadian Journal of Philosophy* (forthcoming), 11f. Bill Wringe. “Global Obligations and the Agency Objection”. In: *Ratio* 23.2 (2010), pp. 217–231; Bill Wringe. “Needs, Rights, and Collective Obligations”. In: *The Philosophy Of Need*. Ed. by S. Reader. Royal Institute of Philosophy Supplement. Cambridge: Cambridge University Press, 2006, pp. 187–207, pp. 201–203.

large, arguably lack collective agency. Moral obligation, so the argument goes, presupposes that the bearer of the obligation is an agent – after all, stones and trees do not have obligations. Consequently, it is a category mistake to ascribe obligations to collections of agents that do not form collective agents.²

Bill Wringe responds to this challenge by denying the agency requirement for obligations. On his view, claims like “humankind ought to provide the means of subsistence to all those in need” do not ascribe obligations to “humankind” as a supposed agent. Instead, such sentences make claims about how the world ought to be, e.g. such that humankind helps all those in need, while leaving it unspecified who ought to see to it that the required state of affairs obtains. To use an example with an individual agent, the claim “Alex ought to get a severe punishment” does not assert any obligation on Alex’ part.³ Instead, it makes a claim that the world ought to be such that Alex gets a severe punishment, and leaves unspecified who ought to see to it that the world is such.

However, Wringe’s response merely pushes the agency objection to another level: Admittedly, there may be true “unowned” oughts, like the claim that life ought not be so unfair, which only concern how the world ought to be, without saying anything about what agents ought to do.⁴ But in most situations where we want to ascribe an obligation to a collection, the kind of obligation we need must be owned. In the case of socio-economic human rights, the obligations corresponding to rights must be owned by someone, because otherwise the rights would not be claimable.⁵ So with regard to obligations to assist all those in need, the question arises who ought to see to it that humankind assists all those in need.

Now Wringe ascribes obligations of assistance to humankind because ascribing the desired obligations to potential collective agents like states is riddled with problems.⁶ For Wringe, it then makes no sense to say that states ought to see to it that humankind at large helps all those in need. Instead, Wringe ascribes ownership of this obligation to individuals, with one qualification: The resulting obligation of individuals are not individual obligations to see to it that humankind helps all those in need, as this would fall foul of ought implies can. Instead, so Wringe, the obligations are obligations to do something that contributes to making it the

2 Cf. Wringe, “Global Obligations”, p. 220, Wringe, “Needs, Rights”, 193ff.

3 John Broome. *Rationality Through Reasoning*. Wiley Blackwell, 2013, p. 12.

4 Cf. *ibid.*, p. 19.

5 Likewise, to make sense of ascriptions of blame, it is not enough that things ought to have been different, but that someone ought to have seen to it that things are different than they turned out to be.

6 Wringe, “Needs, Rights”, pp. 194–195, 199–201.

case that humankind helps all those in need.⁷

However, such individual moral obligations will not do: In a simple form “You ought to contribute”, they imply that you ought to contribute even if not enough others contribute as well, but it is implausible that one ought to perform such pointless actions. In a more sophisticated conditionalized form “You ought to contribute if enough others do so as well”, it turns out that everyone discharges their obligation if no one contributes. Neither of these individual moral obligations is a plausible candidate for obligations that are meant to correspond to socio-economic human rights. For this reason, we are back to ascribing ownership of the obligations to see to it that humanity at large helps all those in need to humanity at large, which again raises the agency objection.

A better response to the agency objection is to understand ascriptions of obligations to loose collections of agents as joint obligations that are jointly owned by these agents together. To clarify the logical structure of joint obligations, consider that owned obligations in general are relations between agents and propositions, of the form “ a ought that p ”.⁸ The fact that such a relation obtains can typically be rephrased as a property of the obliged agent, of the form “ $F_p(a)$ ”.⁹ Now collective obligations are properties of a single collective agent, where “ $F_p(c)$ ” means that collective agent c ought that p . By contrast, joint obligations are non-distributive plural properties of a plurality of agents, where “ $F_p(aa)$ ” means that agents aa jointly ought that p .

For example, “to form a circle” and “to constitute a group” are such non-distributive plural properties of collections of agents. These properties are plural properties as opposed to properties that apply to singular objects, because for these properties to apply, it does not matter whether the agents together form a single collective agent. They are further non-distributive as opposed to distributive plural properties because they are not properties which all of the involved agents have individually, as no one individually constitutes a group or forms a circle. To say that an obligation is had by several agents jointly then neither means that each one of them individually has the obligation, nor does it mean that they are a collective agent who, as a single entity, has the obligation. Instead, the agents jointly have the obligation, which has the sui generis structure of plural properties.

7 Wringer, “Global Obligations”, pp. 226–229.

8 Broome, *Rationality Through Reasoning*, p. 14.

9 Ibid., p. 15.

Once we understand ascriptions of obligations to loose collections of agents as joint rather than collective obligations, worries about the lack agency of such collections become irrelevant, because joint obligations do not even purport to ascribe an obligation to a single integrated agent in the first place. This does not mean, however, that a given collection of agents can be required to do just anything. After all, in the individual case, there are no special worries about me being an agent who can bear moral obligations, but I can not be required to jump to the moon. So with worries about the lack of agency of collections of agents put out of the way, we still need to ask under which conditions a given presumed joint obligation can apply to a given collection. These conditions, I contend, are simply the conditions under which the agents together are jointly able to do what they supposedly jointly ought to do. The reason why I can not be required to jump to the moon is that I am not able to do so. Likewise, it may well be that all humans together can not be jointly obliged to help all those in need, if we are not jointly able to do so. To evaluate this concern in any given case of a supposed joint obligation, we need an account of joint ability. The remainder of this paper develops precisely such an account.

2 Virginia Held and the responsibility of “random collections”

A distinguishing feature of joint ability is that a collection of agents is often jointly able to do much less than what it is possible for the sum of individual agents together to do. To see this point, consider the following example:

The Concert Audience: A concert audience is awaiting a performance. Just before the performance starts, the conductor tells the surprised audience that the performance is interactive, which requires that in each row of seats, precisely half of the audience simultaneously stands up at the opening chord.

Now suppose that each person in the audience is able to stand up at that time, and that the number of people in every row is even. It is then possible that precisely half the audience in each row stands up at the opening chord, but it is not something that they are jointly able to do. The reason for this inability is that there are many ways for the audience to be such that half of them in each row stand up. It is then not clear to the individual members of the audience which of these ways should be implemented, and what they individually hence need to do. So a core task for developing an account of joint ability is to determine the conditions under which a collection of agents is jointly able to coordinate on one of several

implementations of a joint action.

In a seminal paper, Virginia Held tackles this task by examining the conditions under which backward-looking responsibility for past actions can apply to collections of agents,¹⁰ and in her recent paper on the claimability objection to socio-economic human rights, Jesse Tomalty translates Held's view into preconditions for joint obligation.¹¹ Since the precondition of joint obligation is joint ability, we can then formulate the following Heldian position:¹²

Heldian conditions for joint ability: Agents *aa* are jointly able to perform joint action Φ if and only if there is at least one possible collective pattern of actions of *aa* that constitutes *aa* Φ -ing, and it is "obvious to the reasonable person" what part each of the agents needs to play for *aa* to Φ .

In terms of notation, I shall use *aa* to refer to collections of agents, e.g. the listeners of the concert, and clauses of the form "one of the *aa*-s" to mean refer to the members of the collection *aa* individually, e.g. to one of the listeners. By joint actions I mean things that a plurality of agents do together, e.g. to form a circle, independent of whether or not they have any specific joint intentions. A collective pattern of actions of *aa* is a vector of agent-action pairs which assigns each of the *aa*-s an action. In a possible collective pattern of actions of *aa*, each of the individual *aa*-s is individually able to perform the action assigned to her independently of what others do, and it is possible that all of the *aa*-s play their part.¹³

The Heldian conditions for joint ability explain why in The Concert Audience, the listeners are not jointly able to satisfy the demands of the conductor. This is because it is not obvious to the reasonable person what each of the listeners needs to do at the opening chord. The individual listeners can only randomly decide whether to stand up or remain seated, but the

10 Virginia Held. "Can a Random Collection of Individuals Be Morally Responsible?" In: *Journal of Philosophy* 67.14 (1970), pp. 471–481, especially page 476.

11 Tomalty, "The Force of the Claimability Objection", p. 11.

12 Held's discussion can be translated into the terms of joint ability and obligation, because the conditions under which we can hold a collection of agents morally responsible for failing to perform joint action Φ are precisely the conditions under which the agents could have been morally required to Φ . These conditions, in turn, are just the conditions under which the agents would have been jointly able to Φ .

13 To show why the second condition is necessary, consider the collective pattern of actions of all students of a university riding the very same bike at the same time. While each of the individual students can be able to ride the bike at that time, it is not possible for all of them to do so.

chance that they will thereby manage to have precisely half of them in each row stand up is very small.¹⁴

The Heldian conditions, however, suffer from two crucial defects which make them extensionally inadequate for determining joint ability: First, the reference to “the reasonable person” makes the conditions pick out joint ability wrongly. Second, the conditions so far do not take into account how the availability of preparatory actions, e.g. coordination mechanisms, affects agents’ present joint ability to do something in the future. In the following, I improve upon the Heldian conditions in these two areas.

3 Joint ability and the “reasonable person”

In the Heldian conditions, what individual actions need to be performed for the collection to perform a joint action must be “obvious to the reasonable person”. I argue that the reference to “reasonable persons” is mistaken and should be removed. This is because it not only introduces problematically vague concept, but also makes the conditions for joint ability extensionally inadequate. To see this point, consider the following example:

The Treasure Hunters: A group of students study in a library, when one of them comes across an aged document and shows it to the others. The document indicates the location of a huge treasure. In order to retrieve the treasure, among other things, the students have to first discover the additional hidden script in the document, which contains crucial clues. They then have to travel to different locations on the globe to gather additional fragments with crucial information, and operate an ancient water-powered combination lock. The students do not yet know each other, and the group of students contains both chemists who are able to suspect and discover the hidden script, linguists who can read it, and mechanical engineers who can understand the lock. When finding the document, the students only know that it is a guide to finding a treasure, but do not know any other facts about the quest that may lie ahead of them.

¹⁴ With an audience of 400 in ten rows, the chance is about 0.125 per row, and 0.0000000096 for all rows together. This means that inability in the morally relevant sense is weaker than sheer impossibility. To give another example, the very point of passwords is that only persons who know the password can access certain files or services. And while it is not impossible that I happen to enter the correct password to access your email account, I am not able to access it without knowing the password.

First, the Heldian conditions are too strict, i.e. they pick out some collections as jointly unable to do something which they are in fact jointly able to do. In *The Treasure Hunters*, it may not be obvious to some nondescript, average reasonable person who ought to play what part in order for the students to discover the hidden script. The Heldian conditions then judge that the students are not jointly able to discover the script. However, given the chemists' expertise, they may well be jointly able to discover it, because it is obvious to the chemists what they, possibly with the help of the other students, need to do to discover the hidden script.

Second, the Heldian conditions are too permissive, and judge that some collections are jointly able to do something which they are not in fact jointly able to do. For example, suppose that later in the quest, the students fail to disarm a trap, and get hit by arrows that are poisoned with a hallucinogenic substance. For finally accessing the treasure, they need to lift the heavy lid off a sarcophagus. To the reasonable person, it is obvious that everyone should simply pick some spot on the lid, evenly spaced from the others, and then lift it when everyone else is in place. So the Heldian conditions judge that the students are jointly able to access the treasure. However, in their present state, they may not be jointly able to access it. This is because due to their hallucinations, they may not be jointly able to assess the situation correctly, and may, for example, see hundreds of other students around the sarcophagus and think that they are not needed.¹⁵

The lesson from these two problems is that agents' roles need to be obvious not to some reasonable third party, but to the agents in question, and in the situation in which they find themselves. This claim, however, still needs to be specified further, because it can be understood in two ways: It can mean that everyone's role must be obvious to everyone, or that every agent must be such that her role is obvious to her.

To adjudicate between these two possibilities, consider again the first step in the students' quest, and ask whether the students are jointly able to discover the hidden script. Now

15 For a more real-world example, on the Heldian conditions, a group of agents with severe cognitive impairments can turn out jointly able to carry complex tasks that are beyond their grasp, because the part that any given agent needs to play is obvious to the reasonable person. But since reasonable persons are typically conceptualised as having average and not severely impaired cognitive abilities, this assignment of roles can be far from obvious for the agents in question. They are then in fact not jointly able to carry out the task, and the Heldian conditions then allow for mistaken and morally highly problematic ascriptions of joint obligations and backward-looking responsibility to groups of people with cognitive impairments.

suppose that for the students to discover the script, only the chemists are required. Call the chemists “relevant” and the remaining students “irrelevant” in this situation.¹⁶ If the students are to discover the script, it must be clear to the chemists what they need to do, but it need not be clear to the remaining students what the chemists need to do. Furthermore, it need not even be obvious to the chemists what each other needs to do, as long as they know what they individually must do. So the Heldian conditions must be modified to only consider the roles of relevant agents, and to only demand that every relevant person’s role be obvious to them individually.¹⁷

Taking into account these considerations, this gives us a first improvement of the Heldian conditions:

Heldian conditions for joint ability (2): Agents *aa* are jointly able to Φ if and only if there is at least one possible collective pattern of actions of the relevant *aa*-s that constitutes *aa* Φ -ing, and for every one of the relevant agents, it is obvious to her what she needs to do if *aa* is to Φ .

4 Joint ability and obviousness

Having removed the problematic reference to the “reasonable person”, the next task is to elucidate the notion of “obviousness”. The main obstacle for individuals to know which role they need to play is the existence of multiple implementations of a given joint action. For example, in The Concert Audience, there are numerous collective patterns of actions which would all satisfy the demands of the conductor. In half of these patterns, a given individual’s role is to stand up, and in the other half, to remain seated. Unless there is a way in which one of those collective patterns of actions gets picked out as the one to be implemented, there is no way for an individual to know which role she needs to play if the audience is to abide by the conductor’s request.

More generally, if there are multiple collective patterns of actions that all implement the same joint action, then the agents face an equilibrium selection problem: Assuming that the agents

16 More precisely, irrelevant agents are agents who can not make a difference to whether or not all considered agents together Φ , no matter what the other agents do. Note that I here exclude actively frustrating others’ actions as a possible option.

17 Likewise, in the example of the concert audience, it is not required that every person knows what role everyone else needs to play, but solely whether or not she herself needs to stand up or remain seated.

want to see the joint action performed, they prefer situations where the action is performed to situations where it is not performed. All situations where a suitable collective pattern of actions is implemented are then at least weak equilibria in which no agent has an incentive to change her actions. The problem is that if agents have to decide what to do without knowledge of others' actions, they do not know which of the different equilibria to aim for, i.e. they do not know in which of the different suitable collective patterns of actions they should play their part. What is required for joint ability in such a situation is that exactly one pattern somehow sticks out to all of the relevant agents. Now with regard to this salient pattern, every relevant agent does not need to have beliefs about what everyone else precisely needs to do. Instead, each relevant agent only needs to have a true belief about what her part is in that pattern, and to believe that if the collective is to perform the joint action in question, she must perform that part. That latter belief of a given relevant agent amounts to believing that if the other relevant agents want the collection to perform the action in question, they will try to do so via a pattern that includes the said relevant agent performing that particular action.¹⁸ The salient pattern must be unique, because for coordination to be successful, every agent must have the same pattern in mind when forming this belief.¹⁹

Adding this condition, we get yet further improved conditions for joint ability. However, as I argue in the following, these conditions go wrong if applied to pick out joint ability simpliciter. This is because they focus only on subspecies of joint ability, namely immediate joint ability to do something without first having to perform any prior preparatory actions.²⁰ Restricting the scope of the present conditions accordingly, we get the following

Conditions for immediate joint ability: Agents *aa* are immediately jointly able to Φ if and only if there is exactly one salient possible collective pattern of actions of the relevant *aa*-s that constitutes *aa* Φ -ing, and which is such that every relevant agent believes of the action which is her part in that pattern that she needs to perform this action if *aa* is to Φ .²¹

18 I am indebted to Kai Spiekermann for pointing out the need for agents to have some sort of belief about other agents' perception of the salient collective pattern of actions.

19 For the concept of saliency, and understanding it as a "meeting of the minds" of the involved agents, see Thomas Schelling. *The Strategy of Conflict*. revised edition. Cambridge, Mass.: Harvard University Press, 1980, pp. 54–59, 95–97.

20 Note that immediate joint ability allows for the available action to still take significant time, so it does not entail that the action can be immediately completed.

21 Note that the conditions state that each relevant agent believes of her part that she needs to perform it, rather than that she believes that she needs to perform her part in the pattern. I use this *de re* reference to agents' roles to make clear that the agents do not need to have beliefs about the salient collective pattern of actions as a whole, but only need to have beliefs about those actions which are their individual part of that pattern.

It is beyond the scope of this paper to determine all the conditions under which a collective pattern of actions can become salient. However, two conditions are particularly relevant for the following discussion: First, a collective pattern of actions is salient if it is the unique most preferred collective pattern of actions for all agents, e.g. if it is the least costly for all of them.²² Trivially, it follows that any unique implementation of a joint action is salient. Second, a collective pattern of actions becomes salient if it is explicitly selected by a collective decision, where the content of the decision is common knowledge among all relevant agents.

5 Joint ability and motivation

Before turning to joint ability that is mediated via preparatory actions, note that the saliency conditions for immediate joint ability do not include any conditions on agents' beliefs about others' actions and willingness to play their part in making it the case that they together act in a certain way. This raises the worry that the conditions are too permissive, as they do not sufficiently take into consideration obstacles to agents' motivation.²³ To see this point, consider the following possible scenario during the students' quest:

The Treasurestan Meeting: The students have figured out that the treasure is hidden in the country of Treasurestan, and have dispersed around the globe to find various further clues needed to determine the exact location of the treasure. They have agreed to meet up in the capital of Treasurestan at a given date. However, as they each go to their respective airports of departure, the news report that civil unrest has broken out in Treasurestan, and that travelling to the country has become very risky. The students each see the news, and believe that they all have seen it. They each still want to go through with the plan and want the team to meet in Treasurestan, but they are not able to get through to each other to communicate their views.

Each of the students is now faced with doubt about whether or not the other students will follow through on the agreement to meet in Treasurestan. This uncertainty arises first, because they may not be confident that all of the other students are still happy with the group

22 I remain unconvinced by approaches which hold that a unique worst equilibrium is also salient in a way that can aid coordination.

23 For getting me to think more about issues of motivation, I am again indebted to Kai Spiekermann.

going to Treasurestan under the changed circumstances. Second, even if they each had such confidence, they may not be confident that everyone else is likewise confident in each other. But if others lack such confidence, then they may fail to show up, not because they are not happy with the group going to Treasurestan, but because they may not be happy taking the risk of travelling there if it is possible that the other students do not show up. Third, similar considerations apply to a lack of confidence in others' confidence in one's confidence that others are happy with the group going to Treasurestan, ad infinitum.

The doubt that is sown by the news report may then make it less likely that the students all end up going to Treasurestan, even if they are all happy with the group going there under the new circumstances. This is because some students may then opt out because they do not consider it worth the risk of travelling to Treasurestan if they are not guaranteed that the quest will continue there. Their doubts can only be removed if the students can somehow form common beliefs about of each others' willingness to still go to Treasurestan with the group, which would typically be done by communicating with each other.²⁴ Such communication then not only assures the students of each others' willingness to go to Treasurestan with the group, but also assures them of each others' confidence in each others' confidence, and so forth.

Because the lack of such common belief in each others' willingness to see a joint action performed may reduce the likelihood that agents end up performing the action, it is tempting to include such common belief as a condition of joint ability. More precisely, since it is perfectly possible for a collection of agents to be jointly able to do something even if none of the agents is willing to play her part, the condition would be that the agents are in an epistemic situation such that were everyone willing to play their part in the salient collective pattern of actions, they would have common beliefs about that. However, I contend that it is misguided to add such an additional condition, because a reduced likelihood to carry out a joint action does not necessarily indicate a reduced ability to carry it out. If the students in The Treasurestan Meeting do not meet up, this is because some of them did not put enough value on the meeting for it to be worth the risk of going to Treasurestan and ending up there alone. This problem, though, can easily be amended if only the students valued meeting up enough. In this respect, The Treasurestan Meeting is crucially different from The Concert Audience, where the probability that precisely everyone in each row stands up is extremely

²⁴ The needed confidence could also be created by agreeing beforehand that they are all happy with continuing with the quest in case of a crisis in Treasurestan.

small, and will not rise no matter how much more the listeners value success.

The doubts sown by the news report then make it motivationally more demanding to meet up, in that a stronger motivation of each student is required if, as rationally deciding agents, they are in fact going to meet up.²⁵ But such motivational difficulty does not constitute any reduction of ability. To give an individual example, suppose someone gives you a large closed glass jar with some cash in it. You are able to unscrew the lid and reach in to get the money. Suppose further that as you are about to open the jar, the person tells you that it is also filled with a radioactive gas. Now you may think twice before opening the jar, and depending on how much you want the money, and how much you are concerned about your health, you may decide not to open it. However, you remain just as able as before to get the money.²⁶

For these reasons, I conclude that the above saliency conditions for immediate joint ability do not need to be supplemented with further conditions about agents' motivations and beliefs about each other's motivations.

6 *Immediate and mediated joint ability*

The saliency conditions for immediate joint ability together with the above discussion of saliency imply that if there is no salient implementation of a possible joint action of a collection of agents, then the agents are not immediately jointly able to perform the action. Now the most common way to create saliency is to coordinate by making a joint decisions on which implementation to follow. Making such a joint decision is itself a joint action, and may be one which, according to the saliency conditions for immediate joint ability, the agents are immediately jointly able to perform. Such preparatory actions raise the question of what we should say about the agents' ability not only to coordinate, but also to carry out the joint action that requires such prior coordination.

For example, suppose that the conductor in *The Concert Audience* gives the audience one minute time to determine who will stand up and who will remain seated, and tells them to

25 Note that this motivational difficulty does not arise for irrational agents who fail to appropriately take risk into consideration. This further suggests that the problem faced by the students is not one of inability.

26 Matters are different if the jar is, for example, filled with spiders, and you simply can not bring yourself to put your hand into the jar. In this case, the likelihood of you getting the money remains low no matter how motivated you are to get the money. In this situation, the problem is not one of motivational difficulty, but of psychological inability to perform the action in question. This kind of inability is taken into account in the understanding of possible collective pattern of action being patterns in which each agent is individually able to perform her part.

start assigning the tasks of remaining seated and standing up to alternating people in each row, beginning on the left end. There is then exactly one salient collective pattern of actions of all listeners that constitutes them coordinating their actions at the opening chord, and they are immediately jointly able to carry out this coordination. The audience is then at the time of the conductor's demands immediately jointly able to coordinate, and once they have coordinated, they are immediately jointly able to have half of them in each row stand up at the opening chord. The remaining question is whether the audience is at the time of the conductor's request already jointly able to fulfil the request.

Held answers this question in the negative,²⁷ and Tomalty's discussion of whether socio-economic human rights correspond to joint obligations to help the world's poor at least suggests that she would likewise answer in the negative.²⁸ Contrary to these positions, I contend that agents can already be jointly able to perform actions which first require them to coordinate. The Concert Audience shows why allowing for such mediated joint ability is necessary: Given that the listeners want to experience the best performance possible, they (rationally) ought to have half of them in each row stand up at the opening chord. If they do not fulfil the conductor's request, then we are in a position to afterwards say that they spoilt the performance, and ought to have stood up as requested. However, if the listeners were at the time of the request not in some sense able to fulfil the request, and were only able to coordinate, then we could not make sense of this ought-ascription. We could only assert that they ought to have coordinated, but the most plausible explanation of this ought is that coordination was necessary for them to stand up as requested, which they ought to have done.

What we should thus say about The Concert Audience is first, that the audience is at the time of the request immediately jointly able to coordinate at the time of the request. Second, after coordinating, they are jointly able to stand up as requested after coordinating. And thirdly, they are at the time of the request also mediatedly jointly able to stand up as requested after coordinating.

The key to properly understanding joint ability in situations that require prior coordination,

27 Held, "Can a Random Collection of Individuals Be Morally Responsible?", p. 476.

28 Tomalty, "The Force of the Claimability Objection", 11f. Tomalty argues that short of a coordination mechanism, humankind can not be jointly obliged to help all those in need. Likewise, since setting up a suitable coordination mechanism is a highly complex task, humankind can also not be jointly obliged to set up a coordination mechanism. Tomalty's brief discussion suggests that she does not think that present joint ability to coordinate on how to perform an action translates into present joint ability to perform the action later. She also does not seem to consider longer sequences of preparatory actions, which include coordinating on how to coordinate.

then, is to see that ability, as well as obligation, is (often implicitly) doubly time-indexed, namely to the time when the ability obtains, and to the time of the action one is able to do, and that the two times can come apart. Further, we need to acknowledge that joint ability comes in two species, namely immediate and mediated joint ability. The task for the remainder of the paper is to determine under which conditions several agents are mediatedly jointly able to do something.

7 Conditions for mediated joint ability

Before turning to the conditions for mediated joint ability, note that coordinating is only one kind of preparatory action that creates the needed saliency at the next step. Coordinating makes collective patterns of actions salient by creating new information, namely facts about what collective pattern of actions has been decided upon or otherwise designated. Another way to create saliency is to acquire new information, which typically makes entire joint actions, as opposed to their specific implementations, salient. For the purposes of the present discussion, it is then possible to subsume sequences of joint actions as one action, as long as relevant information that the agents have does not change during that sequence. Steps in a sequence of actions are then distinguished from each other by the information that agents have.

Returning to The Treasure Hunters, the students are at the time of finding the document not immediately jointly able to retrieve the treasure, because there is no salient collective pattern of actions of the team which constitutes retrieving the treasure, and which is such that each member of the team believes of her part that it is needed for the team to retrieve the treasure. For illustration, suppose that the quest consists of only three steps:

- deciphering the document (α),
- travelling to different locations to retrieve further fragments with crucial information and meeting in Treasurestan (β), and
- travelling to the right location in Treasurestan and operating a water-powered combination lock with the right code (γ).

Before the document is deciphered, the students do not know where to search for the treasure and where to look for the additional fragments. Further, before they do not gather the additional fragments, they do not know where to travel in Treasurestan, nor do they know about the lock and its combination. However, as the students progress on their quest, their

information and immediate joint abilities change. Because of this change, their immediate joint ability to retrieve the treasure at the final step translates into mediated joint ability at earlier steps, in the following way:

First, once they meet in Treasurestan with the retrieved further information, they are then immediately jointly able to travel to the right location and operate the combination lock. This is because at this final step, there is exactly one salient collective pattern of actions that constitutes everyone travelling to the right location and then operating the lock in the way instructed in the retrieved fragments.²⁹ This pattern is further such that each of the students believes of her part in the pattern that she needs to perform it if the team is to retrieve the treasure.

Second, consider the moment after they decipher the document, and before they retrieve the additional information and meet in Treasurestan. At this point, they are immediately jointly able to retrieve the additional information and meet in Treasurestan. At the same time, they are not immediately jointly able to retrieve the treasure, because they do not yet know about the right location and the combination lock. However, this does not mean that their quest is futile and that they can not retrieve the treasure simpliciter : After all, at this point, they are immediately jointly able to perform an action which will bring them into a situation in which they are then immediately jointly able to retrieve the treasure. Further, they know that they need to perform the first action if they are to obtain this future immediate ability. For these reasons, they are at this time jointly able to retrieve the treasure later on.

Further, consider the moment before they decipher the document. They are then immediately jointly able to perform a joint action which brings them into a situation in which they are mediatedly jointly able to retrieve the treasure later on. For this reason, they are already mediatedly jointly able to retrieve the treasure as they sit in the library and find the document.

Before generalising the behaviour of joint ability through time, note that in the above discussion, I have assumed that at every step, there is precisely one joint action (even though with multiple implementations) that facilitates joint ability at the next step. Now suppose that there are several totally distinct joint actions at one stage, i.e. not just different implementations of the same action, e.g. different ways to get to the location of the treasure,

²⁹ More precisely, the students need to carry out further preparatory actions, e.g. to agree on a way to travel to the right location, and to assign tasks in operating the lock. I simplify the example for ease of exposition.

but different actions altogether, e.g. first going to one location or first going to another location. In such cases, precisely one of the available joint actions must be salient to the agents that are relevant for that action. That is, all of those agents need to believe that if all agents together are to perform the final action, then they will jointly perform that salient preparatory action. So it must be salient both what, roughly, all agents together jointly should do, and how precisely they are going to do it. Typically, saliency of what roughly to do is easily given: First, there might be only one possible preparatory action, which is then trivially salient. Second, if there are apparently multiple options, then there is in fact a single and salient prior preparatory action, namely to together decide on which of those actions to take. Third, once such a decision is made, it makes precisely one of the multiple options salient.

Taking into account the double need for saliency, we can see that joint ability generally propagates backwards in time in the following way: If in a situation s_2 at a time t_2 , agents aa would be (immediately or mediatedly) jointly able to perform joint action Φ_2 at time $t'_2 \geq t_2$, and are at an earlier time t_1 immediately jointly able to perform an action Φ_1 at t_1 which would make it the case that aa find themselves in s_2 at t_2 , and the relevant aa -s whose contributions can make a difference to whether or not aa perform Φ_1 believe that performing Φ_1 has this effect, and that if aa is to perform Φ_2 , it will previously perform Φ_1 , then (and only then) are aa at t_1 mediatedly jointly able to perform Φ_2 at t'_2 . Allowing for longer sequences of preparatory actions, the conditions for mediated joint ability read as follows:

Conditions for mediated joint ability: Agents aa are at t_1 mediatedly jointly able to Φ_n at t_n if and only if

1. they are at t_1 immediately jointly able to perform action Φ_1 at t_1 , where
2. performing Φ_1 at t_1 makes it the case that aa are at $t_2 > t_1$ immediately or mediatedly jointly able to Φ_n at t_n , and
3. the relevant members of aa believe at t_1 that aa performing Φ_1 at t_1 has this effect, and that if aa is to perform Φ_n at t_n , they will perform Φ_1 at t_1 .

Note that these conditions are partly recursive, due to the reference to mediated joint ability in condition 3). Since joint ability simpliciter is the disjunction of immediate and intermediate joint ability, we get the following conditions for joint ability, where the recursion is more clear-cut and is indicated in boldface:

Recursive conditions for joint ability: Agents aa are at t_1 jointly able to Φ_n at t_n if and only if

A) there is exactly one salient collective pattern of actions of the relevant members of aa that constitutes aa Φ_n -ing at t_n , and which is such that every relevant member of aa believes of the action which is her part in that pattern that she needs to perform this action if aa is to Φ_n at t_n ,

or

B) there is a joint action Φ_1 such that

1. there is exactly one salient collective pattern of actions of the relevant members of aa that constitutes aa Φ_1 -ing at t_1 , and which is such that every relevant agent believes of the action which is her part in that pattern that she needs to perform this action if aa is to Φ_1 at t_1 , and
2. aa performing Φ_1 at t_1 makes it the case that aa are at $t_2 > t_1$ jointly able to Φ_n at t_n , and
3. the relevant members of aa believe at t_1 that aa performing Φ_1 at t_1 has this effect, and that if aa is to perform Φ_n at t_n , they will perform Φ_1 at t_1 .

Applied to The Treasure Hunters with three steps, the conditions for joint ability then work as follows: At the time t_α when they find the document, the students are not immediately jointly able to retrieve the treasure at t_γ , so A) does not hold. Thus we need to check whether B) holds, i.e. whether 1) the students are immediately jointly able to perform an action which 2) makes them jointly able at t_β to retrieve the treasure at t_γ , and 3) which the relevant students believe to have that effect, and which is the salient way for them to achieve that effect. The candidate for this action is deciphering the document. Now by the above considerations, the students are immediately jointly able to decipher the document, so 1) is given. As for the students' beliefs, if they believe that only deciphering the document has the said effect, e.g. because they recognise that the document indicates the location of a treasure, then 3) applies, otherwise B) does not hold and the students are at t_α not jointly able to retrieve the treasure at t_γ . To check whether 2) applies and deciphering really does have this effect on the students' ability, we need to ask whether, after deciphering the document, the students are at t_β jointly able to retrieve the treasure at t_γ . We then need to recursively apply the same tests again at t_β .

Since the students are at t_β still not immediately jointly able to retrieve the treasure, A) again does not hold. B) holds if 1) the students are at t_β immediately jointly able to perform an action which 2) makes them jointly able at t_γ to retrieve the treasure at t_γ , and 3) which the

relevant students believe to have this effect, and which is salient for them. The candidate for this action is retrieving the additional information and meeting in Treasurestan. Now they are immediately jointly able to perform that action, so 1) applies. Assuming that the students understand the retrieved information correctly, we can assume that they will form the right beliefs about the necessary next step in their quest, and 3) applies – otherwise, B) does not apply and the students are not jointly able both at t_α and t_β to retrieve the treasure at t_γ . To check whether 2) applies and retrieving the information and meeting in Treasurestan has the said effect, we again need to check whether, after performing these actions, the students are at t_γ jointly able to retrieve the treasure at t_γ .

At t_γ , A) applies and the recursion can stop, as we do not need to check for conditions B). So under the given belief assumptions, the students turn out to be at t_γ jointly able to retrieve the treasure at t_γ , and hence likewise also at t_β and t_α .

Lastly, note that I again do not add any conditions about agents' beliefs about each other's motivations, for the same reason as that given in section 5: Suppose that for some reason the students come to doubt each other's willingness to carry out a given step in the quest, or each other's confidence in each other's willingness, and so forth. They may then be unwilling to invest by performing preparatory actions that create further joint ability which they suspect will not in fact be used to retrieve the treasure. However, the difficulty created by these doubts is again of a purely motivational nature, and can be overcome if the students place enough importance on retrieving the treasure. The students may end up not retrieving the treasure because someone pulls out when the insecurity about the quest's success arises, but they nonetheless are able to retrieve it.

8 Conclusion and implications

I have argued that collections of agents can be jointly able to perform not only joint actions which, via salient collective pattern of actions, are immediately available to them, but also joint actions which require preparatory coordinating actions. I have further proposed recursive conditions for when a collection of agents is jointly able to do something.

In section 2, I have illustrated that collections of agents can be much less capable than the sum of their individual abilities. This claim now needs to be modified in light of the recursive conditions for joint ability: In the short run, when no coordination is possible, collections of

agents can be less able than the sum of their individual abilities. But when agents have sufficient time to coordinate, then they can coordinate on and are able to implement any collective pattern of actions which is possible for them together to do. The question of whether a collection is able to do something is then not sufficiently specific, because in situations where the bottleneck is agents' coordination and acquisition and creation of information, the answer depends on the time frame set to perform the joint action. The question is then not whether the collection is able to perform the action, but by when it is able to perform it.

For practical application to supposed joint obligations of humankind to help all those in need, this means that given enough time, all coordination issues can be solved, and humankind together is able to do anything that is possible for us together to do. However, it remains an open question how long such coordination takes, and answering this question is largely an empirical matter.³⁰ Furthermore, from the need to coordinate, it follows that there are some things that we together are not able to do, namely to perform certain joint actions that require coordination and to do so without first coordinating. One important implication of this result is that there are some suffering people in the world that can no longer be saved, because coordinating on helping them will take longer than they can still wait. In the case of children for whom helping is already too late at the time of their birth, this raises the question if they were ever owed assistance. Philosophers who defend socio-economic human rights on the basis of joint obligations of humanity at large are then forced to consider whether yet nonexistent future people can be owed obligations, and can hence have rights to assistance.

Lastly, considering how long it can take to coordinate ourselves on a global scale, the impression can easily arise that we are now able to perform many crucial joint actions, such as effectively mitigating anthropocentric climate change, only in the distant future. However, this impression is mistaken. How long it takes for a given collection of agents to coordinate to perform some joint action depends largely on the number of preparatory actions that must be taken, and the time it takes to carry out each of these actions. The reason why international negotiations e.g. in environmental matters often takes so long, however, is that such negotiations are not merely about coordinating on achieving a single set aim, but include negotiations that involve the individual aims and preferences of the negotiating parties. But the resulting delays are not due to a joint inability to coordinate quicker, but instead a matter of not placing enough priority on getting coordination off the ground as soon as possible. So

³⁰ Cf. Schelling, *The Strategy of Conflict*, pp. 162–165.

despite the formidable challenges of coordinating the world's population, we together are able to do a whole lot more than we currently do, and much sooner than we tend to think.