Deciding Where to Meet for Dinner:
Simple Problems and Joint Intentionality

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Jack and Jill are deciding on where to meet for dinner. Consider the following snippet of dialogue:

Jack: How about dinner at Alice’s?

Jill: Sure, but not Alice’s. What about Bennie’s?

Jack: The service was really bad the last time I was there. What about Corrinne’s?

Jill: That will do.

Jack: Fine. See you there!

Conversations like this occur every day, and often enough, people actually succeed in meeting. What’s going on? The obvious answer is that Jack and Jill are coming to an agreement. But putting the familiar label on it may conceal some of the ways it’s puzzling. One might think that something so much a matter of common experience could be readily analyzed in terms of what the participants believe, want and have reason to do. In fact, however, such an account is not readily forthcoming.

I shall try to provide that analysis at some length, and no doubt, some will wonder why Jack and Jill can’t just agree. Once each knows what the other wants, why is it a problem for them to agree on Corrinne’s? In a sense, I think that’s exactly right. What they should do is agree on Corrinne’s. The problem comes in understanding what is meant by saying they should agree on Corrinne’s or, equivalently for my purposes, what they are doing in agreeing on Corrinne’s.

The way I will be telling the story involves a certain picture of what is involved in Jack and Jill coming to an agreement. I call this the individualist picture of agreement. This picture, culturally reinforced in various ways, comes very naturally to us – so naturally that we may not
see that there is any imaginable alternative. Roughly, Jack and Jill each have reasons for action which are some function of their respective preferences and beliefs. Each can engage in various kinds of thinking or deliberation about their preferences and beliefs that can result in the recognition of additional reasons for action. There is a sense in which their reasons and deliberations are private. Jack’s reasons for action are entirely a function of his preferences and beliefs; Jill’s, entirely a function of hers. Jack deliberates on the basis of his reasons; Jill deliberates on the basis of hers. From time to time, they announce provisional conclusions to each other. When these provisional conclusions appear stable and coincide, we say they have reached an agreement. According to this picture, the upshot of their conversation is that Jill ends up with a reason for going to Corrinne’s and Jack does as well; therefore, they both have a reason to go there. Since their conclusions agree, we say that they have agreed.

The point of the discussion is to show that this individualist picture is highly problematic. It is not at all clear that, if this is what must be involved, Jack and Jill can agree to meet. More precisely, it is not clear that the two of them can rationally agree to meet, without being deceptive or manipulative. Moreover, even if they can somehow come to a real agreement, this is hardly the most difficult case to analyze in terms of the individualist picture. How, for example, is a group of a half-dozen to select a place for lunch when some of them won’t even be familiar with all the restaurants suggested? Or consider how a committee, an organization or a club comes to a decision on a long-term policy. Larger numbers must be consulted, and among them, there may be different judgments about what the likely outcomes are, not to mention different rankings of the outcomes. If looking at a two-person case with only a few options reveals unexpected complexity, adding additional parties and additional options may make the problems intractable.

This begins to indicate the shape of a larger argument. I shall not be claiming that it is
impossible for some analysis in terms of the individualist picture to be given, either of the case of Jack and Jill or in various more complicated agreements. However, in delineating the complex conditions that would have to be involved for such an analysis to work, I shall be building a case that, even if such an account is possible in principle, it is not an adequate account of what we do in reaching agreement. We find it easy to see that Jack and Jill should agree on meeting at Corrinne’s Restaurant. Jack and Jill themselves find it easy to agree on meeting there. If we find the problem easy, while our theory makes it look difficult, that is reason to question the theory.

Deciding Where to Go – Without Communication

To make it clear that it is not easy to understand what Jack and Jill are doing in agreeing where to meet for dinner, suppress the knowledge that they have talked and agreed. Suppose just that they want to meet for dinner, want to have dinner (at one of three restaurants) whether or not they meet, and that both know how both rank the various possible outcomes. (Perhaps they agree to meet for dinner but somehow neglect to decide where.) Suppose also that each is rational in the sense that neither will select a lower-ranked over a higher-ranked option nor will either strictly prefer one of two equally ranked options to the other. And suppose they both know that they’re both rational in this sense. It is worth attending explicitly to several features in order to bring out the difficulties involved.

First, both Jack and Jill have a definite preference ordering over the three restaurants. Jack prefers Alice’s to Corrinne’s to Bennie’s, while Jill prefers Bennie’s to Corrinne’s to Alice’s. Second, for each restaurant, each would prefer meeting there over going to that restaurant but not meeting (because the other is elsewhere). Third, because Corrinne’s is not the first choice of either, neither has available a dominance argument for being there.
Their options with their ordinal rankings are represented in Table 1:

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<thead>
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<th></th>
<th>Jill</th>
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<tbody>
<tr>
<td></td>
<td>Alice’s</td>
<td>Bennie’s</td>
<td>Corrinne’s</td>
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<tr>
<td>Alice’s</td>
<td>6, 2</td>
<td>4, 4</td>
<td>4, 3</td>
</tr>
<tr>
<td>Bennie’s</td>
<td>1, 1</td>
<td>2, 6</td>
<td>1, 3</td>
</tr>
<tr>
<td>Corrinne’s</td>
<td>3, 1</td>
<td>3, 4</td>
<td>5, 5</td>
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**Table 1: Meeting for Dinner**

If we also assume the restaurants are close together, so they could conveniently move from one to another, then only two of the possible outcomes of their actions, represented by the two shaded boxes, are stable. If Jack is at Alice’s while Jill is at Bennie’s, Jack cannot do better by moving to a different restaurant. He would rather be at Alice’s without Jill than at Bennie’s with her or at Corrinne’s without her. Similarly, Jill can do no better than to remain at Bennie’s. She would rather be at Bennie’s without Jack than at Alice’s with him or at Corrinne’s without him. For like reasons, if they were both at Corrinne’s, neither could do better, acting alone. In game-theoretic parlance, these outcomes are both equilibria. Neither can be unilaterally improved upon by either Jack or Jill. Plainly, though both are equilibria, one is superior to the other. If Jack and Jill both end up at Corrinne’s, each will be better off in terms of his or her own preference ranking than if Jack ends up at Alice’s and Jill ends up at Bennie’s.

None of the other outcomes is an equilibrium. If Jack somehow finds himself at Bennie’s (with or without Jill) or at Corrinne’s (without Jill), he can improve by going to Alice’s. And if Jill somehow finds herself at Alice’s (with or without Jack) or at Corrinne’s (without Jack), she can improve by moving to Bennie’s. Note that this means that if they do not happen both to go to Corrinne’s first, they will end up with Jack at Alice’s and Jill at Bennie’s. That is, they will
end up in the inferior equilibrium position.

The question to ask here is whether there is any reason for each, and therefore for both, to go to Corrinne’s first. In other words, is it just a matter of what they *happen* to do if they both go first to Corrinne’s? The first thing to say is that there doesn’t appear to be any reason for either of them *not* to go to Corrinne’s first. Neither has a dominance argument in favor of some particular restaurant. But also neither has a dominance argument *against* going to Corrinne’s first. Jack has a dominance argument against going to Bennie’s and Jill has one against going to Alice’s, but that leaves either Alice’s or Corrinne’s as live options for Jack and either Bennie’s or Corrinne’s as live options for Jill.

We can thus simplify the representation of their choices about where first to go and the associated outcomes in this way:

<table>
<thead>
<tr>
<th></th>
<th>Jill</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bennie’s</td>
</tr>
<tr>
<td>Alice’s</td>
<td>4, 4</td>
</tr>
<tr>
<td>Corrinne’s</td>
<td>3, 4</td>
</tr>
</tbody>
</table>

*Table 2: Meeting for Dinner, Simplified*

Again, in Table 2, there are two equilibria, one superior to the other, for both Jack and Jill. If they both go first to Corrinne’s, then they will remain there, since neither can do better. Suppose, however, that Jack goes first to Alice’s and reasons in the following way:

Jill must be either at Corrinne’s or Bennie’s. If she’s at Corrinne’s, then I can do better, than by staying here, if I go to Corrinne’s, too. Of course, she might be at
Bennie’s. Then, I’d do better to stay put, since neither Corrinne’s without her nor Bennie’s with her is as good as being at Alice’s without her. But since I don’t know, why not take a chance? I’ll check out Corrinne’s.

Meanwhile, Jill did indeed decide to go to Corrinne’s first. But when she arrived and found Jack absent, she moved to Bennie’s. Had Jack foreseen this, he wouldn’t have bothered to check whether Jill was at Corrinne’s. He would have realized that, even if she did go there first, she wouldn’t stay unless he was there, too. Of course, a similar argument works for Jill. If she doesn’t go to Corrinne’s first, she will have no reason to check to see if Jack did. Once again, unless they both go to Corrinne’s first, they will end up in the inferior equilibrium position.

Now, one might think – indeed, I am inclined to think – that it is just obvious that they should both go to Corrinne’s first. However obvious it appears, it is not clear from the situation as described.

Abstractly, the point can be put this way. There are two principal solution concepts recognized within game theory, dominance and equilibrium. There is a dominance argument in favor of an option when the associated outcomes are all at least as good as those associated with any other option and at least one of the outcomes is better than could be secured through any other option. For equilibrium, a set of options selected by the different players is in equilibrium when it is not possible for any player to unilaterally improve by selecting a different option, given that other players do not alter their play. Improvements, if any are possible, require the coordinated action of two or more players. Neither of these solution concepts, however, applies to the case of Jack and Jill. Neither has a dominant option, and though it is true that there is an equilibrium, there is more than one, so recommending equilibrium play does not determinately
pick out one option as superior for either of them.

Going through the restaurant-choice case less abstractly, suppose Jill is thinking through her options in advance and considers whether she has a (decisive) reason to go to Corrinne’s first. Based on the way she ranks the options, she realizes that she does if and only if Jack will be there. So she turns to considering whether Jack will be there. Since she knows him to be rational, she will expect him definitely to be at Corrinne’s just in case he has a decisive reason to be there. However, since their situations and preferences are symmetrical, she will realize that he will have a decisive reason to be at Corrinne’s if and only if he thinks that *she* has a decisive reason to be there. Now, assuming that each has correct beliefs about what the other believes, we’ve come full circle: Jill has a decisive reason to be at Corrinne’s if and only if Jack does, but Jack has a decisive reason if and only if Jill does. So, Jill has a decisive reason to be at Corrinne’s just in case she has a decisive reason to be there. Similarly, Jack has a decisive reason to be at Corrinne’s just in case *he* has a decisive reason to be there. *These* conclusions might have been reached more quickly, just as a matter of logic, and of course are entirely consistent with neither of them having a decisive reason for being at Corrinne’s.

Parenthetically, we can ask if this is the end of the story. Perhaps not. We can also reach a more qualified conclusion along the following lines: *If* either has a decisive reason for going first to Corrinne’s, it is not adequately captured or expressed by their preference rankings, common beliefs or common rationality in the senses indicated earlier. Since their preference rankings are given, and their common beliefs are correct, this means that if they have a decisive reason, it is the conception of rationality, the conditions of which they satisfy, that stands in need of revision. For the present, I shall leave that as just a suggestion to return to later.
Deciding Where to Go – With Communication

Now, with a better sense of the shape of the problem, let’s reconsider the issue with which we began – how, given that Jack and Jill have the beliefs and preferences described, they can reach an agreement. In short, what headway can we make if, to the initial conditions, we add that they can communicate?

For the sake of simplicity, assume that whatever Jack and Jill say to one another is an honest expression of their intentions or beliefs, that one who intends to do something will actually do it, and that both are aware of these facts.

Granting this much will get Jack and Jill through two and a half or three lines of the dialogue given earlier. Remember, that went:

Jack: How about dinner at eight? At Alice’s?
Jill: Sure, but not Alice’s. What about Bennie’s?
Jack: The service was really bad the last time I was there …. 

In terms of their respective preference rankings, Jack can propose Alice’s and Jill can propose Bennie’s; also, Jack can reject Bennie’s and Jill can reject Alice’s. Each is expressing a conditional intention to go to a favorite restaurant (if the other will be there) and an unconditional intention\(^1\) not to go to a disfavored restaurant (whether or not the other will be there). If what has been stated or proposed so far fully captured the relevant preferences, then they would not meet for dinner. They have not yet reached an agreement.

The dialogue continues with Jack proposing that they go to Corrinne’s. Note that Jack has not yet said that he will be at Corrinne’s. He has only asked the question, “What about
Corrinne’s?” It appears that that, too, is possible given the way he ranks the various possible outcomes. There is only one outcome he ranks more highly than dinner with Jill at Corrinne’s, namely, dinner with Jill at Alice’s, but he knows that isn’t possible since Jill won’t agree to it. In asking the question, he has expressed only a conditional intention to be there, provided that Jill will be. No unconditional intention to be at a particular restaurant to the exclusion of the other two has yet been expressed by either of them.

Suppose that each has now managed to convey to the other his or her complete preference ranking of the possibilities. They both know what Table I and Table II above would look like. Since (a) their positions are symmetrical and (b) neither has yet expressed an unconditional intention to be in a particular place, no agreement on where to meet for dinner has yet been reached. What is needed is some kind of symmetry-breaking. One or the other of them must express an unconditional intention to be at one of the three restaurants.

That is what appears to occur when, in reply to Jack’s proposal that they meet at Corrinne’s, Jill says, “That will do.” What is going on? How does Jill move from a conditional intention to be at one of the restaurants to saying, unconditionally, that she will be at Corrinne’s? A deeper question here is: Is that what Jill is doing? Is she saying, unconditionally, that she will be at Corrinne’s? She is not saying it in so many words, and the grammar of her actual reply leaves some ambiguity. Surely, she is expressing some unconditional intention or other and that the object of the intention – the state of affairs that would, if it were actual, be the fulfillment or carrying out of that intention – is in some sense satisfactory, but it is not clear that the object of the intention is that she be at Corrinne’s. For the present, let us suppose that she is indeed expressing an unconditional intention to be at Corrinne’s. An alternative will be suggested later.

From our earlier characterization, it follows that if Jill says that she unconditionally
intends to be at Corrinne’s, she does so intend, and that if she intends to be, she will be. Looking ahead, we can see that once Jack hears her announcement, he will, since he knows she is honestly expressing her beliefs and intentions and will do whatever she intends, have sufficient reason to go to Corrinne’s rather than anywhere else. The condition of his conditional intention to go to Corrinne’s will be satisfied. Since it is, he will have a dominance argument in favor of going to Corrinne’s: Once he knows that Jill will be there, he can do better in terms of his preferences by going to Corrinne’s than by going anywhere else.

The crucial question, then, is how Jill arrives at or forms the unconditional intention to be at Corrinne’s. In one sense, it is plain that she can do so. She just does. That leaves open, however, the question whether she is rational to do so. Here, the problem is that, until she forms the intention to go to Corrinne’s, she is in exactly the same situation as in the earlier case in which she was fully informed about Jack’s and her own preferences, but unable to communicate with him. In that case, though she could go (first) to Corrinne’s, she had no decisive reason to. In fact, she could not have a decisive reason to go to Corrinne’s unless Jack did, and Jack could not have a decisive reason unless she did.

Perhaps, now that she can communicate with Jack, she can reason in this way:

> If I announce that I intend to be at Corrinne’s, Jack will believe me. If he believes I intend to be at Corrinne’s, he will believe that I will be there. If he believes I will be there, then he will be there. If he will be there, then I have a decisive reason to be there, too. So, I will announce my intention to be there.²

Does this get what we want? It is not clear that it does. Notice that it begins, “if I announce that I
intend” and the conclusion is “I will announce my intention.” On the face of it, this is an argument in favor of making an announcement, not in favor of having an intention. Does Jill just announce that she intends or does she also intend?

Now, this question is not about whether she will intend to be at Corrinne’s. Once she does make the announcement, she will have a decisive reason to be there and, knowing this, will intend to be there. However, for the announcement to be honest, it must be true, when it is made, that she has the intention. Given her assumed honesty, she will not announce that she has an intention unless she really does. This implies that if she does announce an unconditional intention to go to Corrinne’s, she must already have formed the intention to do so or else she must be forming the intention by making the announcement. For reasons already covered, she can’t have formed the intention earlier. Can she be forming the intention in or by making the announcement?

If she is forming the intention in or by making the announcement, then the announcement would have something of the character of a performative. Just as saying, “I promise,” in appropriate circumstances, is not just describing an occasion of promise-making but is the making of a promise, so, according to this suggestion, when Jill says, “I intend,” she is not just reporting an intention, but is, by that action, intending. The announcement would be either identical to or would partially constitute the intention.

To see if this adequately describes what is going on, we need to look more closely. There is, on one hand, Jill’s overt behavior, uttering the words, “I intend to go to Corrinne’s.” There is, on the other hand, the situation in which she utters the words, including any reasons she has for the utterance. By itself, making the utterance is surely not sufficient for her to be intending to go to Corrinne’s. The words might be uttered in a play, as a joke or even as a lie. If saying the
words does constitute her intention to go to Corrinne’s, it is saying them honestly or sincerely in an appropriate situation that does so. Since we are assuming her honesty, in virtue of what about her situation is it appropriate for her to utter the words? Only one answer is plausible: The utterance is appropriate, if it is, because of the expected consequences of that very utterance. When Jill says that she intends to be at Corrinne’s, that will bring it about that Jack is there, and therefore will bring it about that being there also is her best option.

To my mind, this has a suspicious air of boot-strapping. The problem is not that there is some general objection to acting on the basis of expected consequences. That is just ordinary, garden-variety, means-end reasoning. Rather, the problem is that, in ordinary means-end reasoning, the end must be assumed to be already aimed at to support the claim that the means are appropriate. If Jill does not already intend, unconditionally, to be at Corrinne’s – she has, instead, only conditional intentions to be there – it is not transparent what she is doing. How can she be adopting a means – making the announcement – to an end that she does not have unless she adopts the means?

Perhaps this is possible. We are in difficult territory here, and I am uncertain whether it is reasonable to rule something like this out. It could more comfortably be admitted if there were analogous, but uncontroversial, cases of intention formation having the same structure. I do not know of any. But even if parallels cannot be found, it should not be decisive against an analysis for the case analyzed to turn out to be sui generis. Still, it is puzzling and I think sufficiently so that we are warranted in trying to find an alternative account.

Sharing Reasons

Consider a different approach. The problems so far have centered around the fact that
Jack makes decisions only for himself and Jill only for herself. Each can take into account what the other may be expected to do under various conditions and make adjustments accordingly, but each treats the other’s behavior, actual or expected, simply as a parameter relevant to his or her own decision-making.

Suppose instead that Jack and Jill can somehow appoint an agent to make a decision for both of them together. What would they want that agent to be like? First, he should have no stake of his own in where or whether they meet for dinner. That is, he will take into account their preferences but will not favor or be biased toward one over the other, nor will he be concerned to prevent them from satisfying their preferences. Second, he can in fact make a decision for both of them. Once he has reached a decision, he, so to speak, waves a magic wand, and Jack and Jill appear at the appointed restaurant or restaurants. Third, he shouldn’t be able to go too badly wrong, so the scope of his ability to reach a decision for them should be limited. He can make a decision for both, but can’t make them stay where they have been placed if either would rather move. Fourth, his decision should be such that it will not be vetoed by either of them actually deciding to move.

Now, if Jack and Jill could appoint an agent with those properties, his decision would be simple. Only two decisions would not be vetoed, namely, placing both at Corrinne’s and placing Jack at Alice’s and Jill at Bennie’s. Of those two, Corrinne’s is better for both Jack and Jill, so that’s what the agent would choose.

Minus the metaphor of appointing a third-party equipped with a magic wand, I think this is close to what is actually going on. It is not that Jack and Jill are each reasoning about what to do and, fortunately, coming up with concordant decisions. Rather, they are reasoning together to reach a single, shared decision, one that is not just some compound of their separate decisions but
their decision.

What Jack and Jill are doing is – in this case, for limited and temporary purposes – constituting themselves as a single decision-making unit. When Jill says “That will do,” she is taking it to be the case that the two of them are willing to so constitute themselves and is announcing the decision that is reasonable from that joint or shared perspective. She is indeed expressing an unconditional intention to be at Corrinne’s and also that being there, with Jack, is satisfactory, but it is not an intention or satisfaction simply from her own perspective; it is the intention and satisfaction of the decision-making unit that she and Jack are constituting themselves as.

1 A note on conditional and unconditional intentions: In a conditional intention, the condition is part of its content; in an unconditional intention, it is not. However, to say that an agent has an unconditional intention does not mean that she will execute it, no matter what, or even that she will execute it, provided only that it is in her power to do so. Intentions are formed against an assumed background that consists, roughly, of what is expected whether or not the intention is carried out. If the actual background conditions turn out to be significantly and relevantly different from those assumed, that may constitute a defeating or undermining condition for the execution of the intention. It probably does not matter much for present purposes whether we say that, in such eventualities, the agent is not rational to act on the intention or is rational to alter the intention (rather than carry it out).

2 This way of putting matters owes much to discussion with Joe Mintoff, for which I am grateful. However, I would not want to saddle him with responsibility for it. He might well take exception to the formulation or to my treatment of it.