A cognitive explanation of the perceived normativity of cultural conventions

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I argue that cultural conventions such as social etiquette facilitate a specific (non-Lewisian) kind of action coordination—role–interaction coordination—that is required for division of labour. Playing one's roles and coordinating them with those of others is a form of multitasking. Such multitasking is made possible on a large scale because we can offload cognition aimed at coordination onto a stable infrastructure of cultural conventions. Our natural tendency to prefer multitasking in instances where one task requires low cognitive control can thus explain our preference for and expectation of familiar cultural conventions—that is, their perceived normativity.

KEYWORDS
action coordination, cognitive offloading, cultural conventions, division of labour, multitasking

1 INTRODUCTION

From the publication of David Lewis’ Conventions (Lewis, 1969) onwards, there has been a sizable philosophical debate on the nature and function of conventions. Though the normative status of conventions does not always occupy centre stage in this debate, most positions in it do at least imply an explanation of why it is we feel we should adhere to prevailing conventions. This paper will focus on why we feel we should adhere to a special sub-class of conventions that I shall label “cultural conventions.” This class consists of such relatively trivial things as social etiquette, dress codes, the ordering and styling of public space (roads, kerbs, signs, the layout of offices, schools, supermarkets, etc.) and architectural customs and styles. Such conventions are as typical of a given culture as are...
cultural beliefs and values. They play a significant role in the phenomenon of “culture shock”, that is, feelings of estrangement and disorientation experienced by migrants and sojourners (see Section 6) and may well play an underestimated role in social problems in multicultural societies.

Why do people in some cultures feel that a conversation partner ought to look them in the eyes every now and then, while other cultures regard this as terribly rude? Why do most Europeans feel offended when a guest opens their refrigerator looking for a beer, while many Americans do not? Why is a non-reciprocated handshake involuntarily experienced as impolite by most Westerners, even when we know that no impoliteness is intended? Cultural conventions are perceived as being normative—they are perceived as describing the way things are supposed to be. But why? And what does that even mean? Cultural conventions are conspicuously arbitrary. It may be immoral or irrational not to abide by them once they are in place, for example because it will offend others. But what problem is solved or what purpose is served by uniform commitment to such conventions in the first place?

Answering this question does not require explaining normativity as such. I will steer clear of the Scylla of obscurantism and the Charybdis of a naturalistic fallacy by focusing on perceived normativity: the often unreflectively felt inclination to follow conventions, the felt expectation by others that we do so, and the tendency to be disturbed when others do not follow these conventions.

In Section 2, I will argue that the perceived normativity of cultural conventions cannot be explained by the two most prominent philosophical theories on the nature of conventions, propounded by David Lewis and Margaret Gilbert. In the remaining sections of this paper I will sketch a cognitive explanation of the perceived normativity of cultural conventions. I will first argue that cultural conventions serve a coordinative function, but one that differs from the function described by Lewis. In order to do this, I will start by distinguishing three kinds of action coordination, in Section 3. In Section 4, I will argue that cultural conventions facilitate a specific type of coordination involved in dividing labour and social roles. Such coordination is not part of these social and economic roles, hence performing such roles and coordinating them requires a form of multitasking. In societies with (massive) division of roles such as ours, we can manage this virtually permanent demand for multitasking, cognitively speaking, because we can offload most of the cognition involved in role-based coordination onto the physical and social infrastructure provided by our cultural conventions—or so I will argue in Section 5.

This sets the stage for a cognitive explanation of the perceived normativity of cultural conventions in terms of our natural inclination to avoid the cognitive strain that follows from the inability to offload cognition aimed at role coordination. In Section 6 I will elaborate on this explanation by showing, first, that it fits well with existing theories on the nature of culture shock. Secondly, I will argue that it might yield an evolutionary explanation for the typically human sensitivity to cultural conventions, as evidenced by experimentally confirmed phenomena like overimitation.

2 LEWIS, GILBERT, AND CULTURAL CONVENTIONS

It is widely recognised that conventions in general are arbitrary. But cultural conventions are conspicuously so. In another time and place, formal men’s clothing need not involve a necktie, churches need not have spires, and high fives may have been the polite way to greet somebody. We all know this. But that does not mean that people are indifferent about which conventions they use—they are not. In fact, in the case of cultural conventions, people are usually the opposite of indifferent. In part this is because cultural conventions are “transparent”: just like we read a story “through” the letters on the page, so we see politeness, rude manners, and various other social meanings “through”
their—often completely arbitrary—forms. We care about these social meanings and in unreflective moments we do not neatly separate the message from the medium. But why is it that we find this hard to do in reflective moments as well? Precisely because cultural conventions are so obviously arbitrary, one would expect it to be relatively easy to distinguish form and content.

And yet it is not. The example of someone who refuses to shake hands while expressing respect in some other way is a case in point: sometimes, knowing that no disrespect is meant is not enough to take away all awkwardness. Or imagine eating together with a person who is not familiar with your table manners: knowing this is not a deliberate breach of conventions may not be enough to fully erase the perception of impoliteness. Or think of the involuntary link between certain local accents and ascriptions of intelligence that many people need a good deal of conscious effort to fight. What explains this difficulty to shake off our cultural conventions, even temporarily, given their manifest arbitrariness?

David Lewis' (1969) theory of conventions might seem to be the first place to look for answers, as it explains exactly why conventions are arbitrary even though we are not indifferent about them. Conventions, according to Lewis, are solutions to coordination problems that can be modelled in game-theoretical terms. The fact that a game-theoretical matrix of a given coordination problem can have more than one equilibrium explains the arbitrary nature of conventions. It is arbitrary—to use the simplest example—to drive on the left- or right-hand side of the road. But once everyone drives on the left side, we should not be indifferent about what side to drive on (if we want to avoid collisions). Likewise, it is an arbitrary rule that when a phone call is disconnected, the original caller should call back. But once the rule is established, we should not be indifferent about whether to follow it if we want to be reconnected. The normativity of following a convention here is dictated by rationality. To be sure: Lewis' explanation pertains to the rational origins of following a convention, while leaving the explanation of which convention we end up opting for to other means (Lewis refers to salience and simulation-like inferences about other people's minds). Following a convention is rational, but the collective choice of convention is in an important sense arbitrary.

The sense of arbitrariness at play here is well captured by Marmor:

Given that \( A \) is the main reason for members of a population, \( P \), for following a rule, \( R \), in circumstances \( C \), \( R \) is an arbitrary rule if and only if — there is at least one other rule, \( R' \), so that if most members of \( P \) in circumstances \( C \), were complying with \( R' \), then for all members of \( P \), \( A \) would be a sufficient reason to follow \( R' \) instead of \( R \). The rules \( R \) and \( R' \) are such that it is normally impossible to comply with them concomitantly in circumstances \( C \). (Marmor, 1996, pp. 351–352)

Marmor argues, however, that Lewis' theory of conventions does not apply to all kinds of convention. He mentions three examples of exceptions: the rules of games (in particular solitary games), conventions in artistic styles and social etiquette. The point is that these conventions do not solve coordination problems that can be plotted in game theoretical matrices. Because social etiquette falls squarely within the domain of cultural conventions, I will concentrate on this. Marmor writes:

Rules of etiquette have been mentioned as an example of conventions which are not explicable along the lines suggested by Lewis. Consider, for example, the convention of holding one's fork in the left hand. That this rule is a convention is hardly deniable. (In some cultures, the convention is to hold the fork in the right hand, and in others, people are not expected to eat with a fork at all.) But it would be rather awkward to
suggest that such a rule has anything to do with co-ordinating the behaviour of the agents in question. (Marmor, 1996, p. 364)

This is not to say that people have no reason to follow such conventions. They might have a preference for conformity or think that following the convention enhances solidarity with a specific social group. The point is, rather, that these reasons to follow the convention can only arise after the convention is formed. They do not explain the emergence of the convention. If we start to think from a situation in which the convention is not yet formed, there is no reason to form it that resembles the reason to form a Lewis-style convention. Compare: if each car driver decides for herself what side of the road she would drive on, there will be trouble. If each person whose phone call is disconnected decides for herself whether to call back or not, half the phone calls will not be reconnected (when neither or both call back simultaneously). But if everyone decides for herself in which hand to hold her fork, no such problems would arise.

The same goes for other cultural conventions. Why not allow for handshaking, bowing, tongue protrusion, and a bunch of other signals as means of greeting? Why not think of T-shirts at the office as proper dress code? It is clear that we cannot go on and multiply such formalisms endlessly. But in itself, a moderately pluralistic set of cultural conventions would not be irrational. Rationality might explain the normativity of Lewis-style conventions (see, however, Guala, 2013, pp. 3116–3121), but it does not explain a tendency towards homogeneity in a domain where options are not mutually exclusive, so that homogeneity does not solve a coordination problem in Lewis’ sense.

The best-known and best worked-out alternative for Lewis’ theory of conventions is Margaret Gilbert’s. Unlike Lewis, her notion of convention is not individualistic. It does not assume that conventions are solutions to coordination problems worked out by individuals, but instead assumes that conventions should be approached from the supra-individual level:

A population $P$ has a convention of conformity to some regularity in behavior $R$ in situation of type $S$ if and only if the members of $P$ are jointly committed to accept as a body, with respect to themselves, the fiat: $R$ is to be conformed to. (Gilbert, 2014, p. 219)

The plausibility and informative potential of this proposal hinges on what group commitment amounts to. I will not discuss this here for the sake of brevity. What makes Gilbert’s notion of convention an interesting alternative for Lewis in our discussion is the fact that she explicitly aims to capture three features of conventions that apply specifically to cultural conventions.

First of all, she explicitly aims to explain the normativity of cultural conventions. According to Gilbert, “the ‘ought’ [of conventions] is understood to be based on the fact that together [a collectivity] jointly accept[s] the principle.” (Gilbert, 1989, p. 377) Marmor argues that it is unclear how joint acceptance can explain normativity (Marmor, 1996, pp.362–363). This may be true, but joint acceptance does explain perceived normativity: acceptance means thinking one ought to comply and so do others. Secondly, Gilbert’s notion of convention stresses that conventions only hold within a certain group—the commitment of population $P$ is a commitment with respect to itself only. Thirdly, and importantly, Gilbert claims that her notion can explain why people can feel offended when others do not act according to conventions: their behaviour is a breach of the joint commitment.

Like Lewis, Gilbert allows for conventions to be arbitrary: the fiat at issue is “simple,” in her words, meaning that it presupposes no specific rationale. (Gilbert, 2014, p. 220) But just like Lewis’
account, Gilbert’s account of conventions does not explain why cultural conventions are there in the first place. Why is there commitment at all when \( R, R', R'' \) etc. are arbitrary and not mutually exclusive? Why would we insist on one way of greeting politely in specific situations? Why would we commit to a homogeneous set of templates for personal encounters in various social situations that together make up our etiquette? Why would individuals feel bound by a collective commitment that is groundless?

In the following I will attempt to solve this problem by arguing (a) that cultural conventions do serve a coordinative purpose, albeit a coordinative purpose of a different kind than the one highlighted by Lewis. (b) Furthermore, I will argue that with respect to this specific type of coordination, the driving force behind adhering to a homogeneous set of cultural conventions is cognitive efficiency.

3 | THREE KINDS OF COORDINATION

For Lewis, coordination problems are “situations of interdependent decision by two or more agents in which coincidence of interest predominates and in which there are two or more proper coordination equilibria. (…) [T]hey are situations in which, relative to some classification of actions, the agents have a common interest in all doing the same one of several alternative actions.” (Lewis, 1969, p. 24) People who want to meet every Monday evening, for example, have a common interest in “doing the same one of several alternative actions” (going to the same place every time), and so do car drivers (keeping to the same side of the road). The importance of Lewis’ clause that this sameness is “relative to some classification” of the actions is demonstrated by the telephone case: if after a disrupted phone call both people “do the same one of [two] alternative actions”, in the most straightforward reading of this phrase, they would both be calling back or both be waiting for the other to call. This is not in their common interest. In this case their common interest is served by acting according to the same rule, that is, “the caller should call back and the receiver should wait” or vice versa. The same course of action that supports their shared interest should be described as following the same rule (even if following the same rule means acting differently and complementarily). Let us call this rule-based action coordination. Most examples used by Lewis to illustrate his theory are instances of rule-based action coordination, that is, instances where coordination is achieved through following the same rule.

There are other types of coordination. Suppose we want to open a box together; I hold the box steady and you cut it open1 (we can assume that the box is of such a size that it is impossible for one person to hold it steady while trying to cut it open at the same time). This is a clear case of action coordination. But here our common interest (opening the box) is not served and coordination is not achieved by following a rule. Coordination is achieved because our actions complement each other.

But this may seem to be too quick. In the telephone case, different complementary actions could be re-described as “the same” actions if we subsume them under one rule (either “the caller calls back and the receiver waits” or vice versa); if one person waits and the other calls back, they both follow the same rule. So what is different in the box-case? Why not say that coordinating, in the box case, means following the rule “one person holds the box steady and the other person cuts it open”. The rule here is basically an action plan, but so is the rule “the caller calls back and the receiver waits”.

The point is that knowing we should follow the rule “one person holds the box while the other cuts it open” is not sufficient for coordination. In fact, that rule is completely obvious. There is no

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1 The example is taken from Tomasello, Carpenter, Call, Behne and Moll (2005).
clear alternative. This is crucial, since Lewis-style coordination hinges on the availability of multiple coordination equilibria. There are two telephone rules and it is arbitrary which one we opt for. Thus, in the telephone case the issue is to decide what rule to follow. But there is only one box-rule (if we want to call it that). The issue we should settle in the box case is not what rule to follow, but “who does what?” Who holds the box and who cuts it open? The box case is an instance of what we may call role-determination coordination; coordination is achieved by determining who plays which role in an otherwise salient overall action-plan.2

There is a third type of coordination that involves features of both types of coordination mentioned so far, but that is a separate kind of coordination nevertheless. This is the type of coordination that I will argue is served by cultural conventions. It is a kind of role-coordination but distinct from role-determination coordination. In the box case, only two roles are involved and once these are assigned, the coordination problem is solved. Moreover, the division of labour is such that there are no further issues to be settled about the interaction of the roles. But in many instances of divided labour, there are more than two roles involved and they often are more loosely interconnected, which does leave issues about the interaction between these roles to be settled: who interacts with whom and how? These are not role-determination coordination problems, such as the box case, but role-interaction coordination problems. Let me make this less abstract by means of some examples.

Coordinating the roles of many people may involve planning. Adam Smith’s example of a pin-making factory, in which the process of making pins is subdivided into 18 sub-tasks or roles (Smith, 1776), is a classic case in point. The roles of metal cutter, pin drawer, roller, finisher, etc. are carefully pre-planned and so is the interaction between these roles. But role-determination coordination may also emerge without pre-planning. Suppose a group of parents are asked to clean up a classroom of a primary school after a school party.3 They might discuss who will do what; that is, they might divide roles by agreement. But the more probable scenario is this: a first parent enters the classroom, picks one of the many chores that need doing—say, vacuum cleaning—and thinks “when I'm done, I'll see what else needs doing.” The next parent sees that vacuum cleaning is taken and picks another chore—desk wiping, say. And so on, until all the parents are busy with their complementary chores. Parents who are finished with their chore look for a new one until the classroom is clean and tidy. This is role-determination coordination too. But emergent coordination without pre-planning.

The parents’ respective roles are more loosely related than in the box example. Role-players need not constantly track and/or interact with the roles of others. For some periods of time they are more or less on their own.4 However, at times they must interact with the roles of others. The desk-wiper might need a bucket that is currently in use by the parent who takes care of the plants, she might be in the way of the vacuum-cleaner so that one or the other is required to step aside, and so on. These are “local” role-interaction problems. In the classroom case, such problems will be solved on the fly; they require an ability to improvise.

But now consider another instance of coordinated roles where the coordination is emergent rather than planned. Economist Paul Seabright describes (in much more detail than I can reproduce here) the origins of a shirt he bought some day: “the shirt I bought (…) represents a triumph of international cooperation. The cotton was grown in India, from seeds developed in the United States; the artificial fiber in the thread comes from Portugal and the material in the dyes from at least six other

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2 It might be objected that we can describe the problem as determining whether we follow the rule “Sue holds the box and Bob cuts it open” or the rule “Bob holds the box and Sue cuts it open.” But these are not rules in the relevant sense: other than in the telephone case, for each different pair of people, the same coordination problem would be solved by a different rule.
3 This example is taken from Abramova and Slors (2015).
4 This is labelled “distributive coordination” in Abramova and Slors (2015), to be contrasted with contributive coordination such as for example, in the box-case.
countries; the collar linings come from Brazil, and the machinery for the weaving, cutting, and sewing from Germany; the shirt itself was made up in Malaysia.” (Seabright, 2010, p. 17) Seabright’s point is that the coordination between the roles of cotton producer, dye producer, cotton dyer, weaver, etc., sophisticated and complex as it is, is emergent and not planned. The intricate network of roles includes many local role-interaction problems that can hardly all be solved on the fly. Most local interactions will in practice be guided and facilitated by local conventions, that is local rules—rules of politeness and fairness, rules about currency, interests and payments, about who meets who, when, and where, about when and how a deal is struck, etc.—simply because such role-interaction coordination is important and recurrent, so that standardised solutions save a lot of time and energy.5

So, role-interaction coordination involves following rules, just like rule-based action coordination. Is role-interaction coordination not a form of rule-based action coordination, then? Not exactly. The difference is subtle but crucial. There is a difference between coordinating actions “from scratch,” and coordinating roles that already have a degree of interdependency and organisation. Roles exist only if there is already a level of coordination—role-determination coordination. This means that role-interaction coordination serves the purpose of supporting, enhancing, facilitating or enabling pre-existing coordination of actions. This is different in the case of rule-based action coordination, where there is no pre-existing coordination.

This difference explains why rules solve rule-based action coordination problems in a different way than role-interaction coordination problems. If there is no pre-existing level of coordination, such as in the examples used by Lewis, the function of rules is to set-up coordination, from scratch. Therefore, the options for coordinating actions must be determined by plotting all individual action possibilities against each other in a matrix and determining the overall outcome per action-combination for each of the people involved. If there is more than one optimal combination of action possibilities—more than one equilibrium—we need to pick one of the options, arbitrarily. Picking one equilibrium—one rule—makes the actions of others predictable, so that we can determine our own action so as to coordinate with them. Allowing for multiple equilibria—conventional pluralism—would undermine predictability and defeat the purpose of the convention. Rules are thus mutually exclusive.

The situation is different in the case of role-interaction coordination. Because there is already a level of coordination at play—role-determination coordination, achieved by other means than following a rule, such as economic principles—there is already a degree of predictability in the actions of a potential interaction partner. The desk-wiper knows that the parent taking care of the plants will need her bucket back at some point. A cotton-dyer knows that the dye-maker and the cotton farmer offer products she needs and that she produces what the weaver needs. The rules or conventions involved in these interactions do not determine the interactions themselves, but merely their “how.” The function of conventions in this case is fine-tuning and facilitating role-coordination, not setting-up the coordination between roles. And this is why a degree of pluralism does not defeat the purpose of invoking rules in this case. Even though the weaver may be used to trading in dollars and drinking tea before a deal, she understands that in some instances trading in euro’s and drinking wine after a deal might also do the trick. This is what makes the use of rules in role-interaction coordination different from the use of rules in Lewis-style rule-based action coordination.

5 It is important to distinguish these local rules, which are cultural conventions, from what Pagel calls "local rules" in the context of explaining how the complex organisation of whole societies emerges from local interactions (Pagel, 2012, chap. 10). Unlike Pagel’s local rules, the local rules I refer to here are not involved in setting-up coordinated interaction between people. That is done by economic considerations.
Division of labour is not merely an economic notion. We do not just divide tasks that affect our livelihoods, we also divide roles in families, sports teams, amateur orchestras, groups of friends who organise a party together, etc. In the following I will use the term “division of labour” in a broad sense to include all the ways humans divide their tasks, roles and jobs. I will take as a point of departure the observation that almost all human societies are characterised by (often massive) division of labour in this broad sense. This means that role-interaction coordination is rife in human societies. In such coordination situations cultural conventions have a very significant facilitating and enabling function. In this section I will briefly discuss ways in which cultural conventions enable and/or facilitate role-interaction coordination and explain in a bit more detail how this differs from rule-coordination.

Divided roles and tasks need to be connected, at least every now and then. Some roles, like being a waiter or running a household, involve almost constant exchange with people playing other roles (cooks, customers and bosses in the case of the waiter, children, supermarket personnel, doctors and teachers in the household case). Other roles (like being a university professor or being the treasurer of the local soccer club) can involve longer periods of time spent alone. But even for these roles it is true that contact with people playing different roles is part of the job description. In fact, with the exception of hermits, all economic and social roles involve—and are partly defined in terms of—the exchange of goods, services and information with people who play different roles. The need for such exchanges gives rise to three kinds of role-interaction coordination problems.

The first of these is connected with identifying the roles of others as possible exchange partners. Exchanges of goods, services and information often hinges on contact with people who play a specific role, rather than contact with specific people as such. As a father who is responsible for the cooking in our family, my role requires frequent exchanges with supermarket personnel, but not specifically with particular persons. As a tourist I may require assistance from a police officer, but it does not matter who the officer is that will assist me. A teacher's job is to teach pupils of a certain grade, not to teach Sue, Frank, and Sam. This gives rise to what we can think of as a “signposting problem” in connection with role-based coordination: how can we recognise the roles we need to connect with?

Many cultural conventions are used as solutions to signposting problems. The typical architecture of supermarkets allows me to recognise one, even when I am not familiar with the name of the store. Conventions in clothing allow me to distinguish the check out person from the boss. And conventions in lay-out, signs and interior architecture allow me to find these people. Such simple examples can be generalised: a huge array of cultural conventions—about clothing, manners of speaking, formal or informal demeanours, gestures, and all kinds of etiquette—allows for a rich system of signposting; it allows us to recognise and perceive hints about people's roles. It also allows us to express our own roles and signal them to others. Likewise, a set of conventions about the styling of public space provides signposts for where to find people who play a certain role; think of the instant recognisability of churches, gas stations, hospitals, residential areas, office buildings, etc.

Before moving on to other ways in which cultural conventions facilitate role-interaction, we should come back to the difference between role-interaction coordination and rule coordination, Lewis-style. Lewis' aim in discussing conventions as solutions to coordination problems is to explain linguistic conventions, and the step from the kind of conventions mentioned in Sections 1 and 2 to linguistic conventions is made through a discussion of signalling conventions, that is, conventions...
about the meanings of arbitrary signs. Arbitrary but generally agreed on connections between signs and meanings are described by Lewis as solutions to coordination problems. Why is the use of cultural conventions as signposts for specific roles different from the use of linguistic (and other) signs to refer to specific meanings?6

In order to answer this question, let me make a brief detour via a critique of Lewis. Stephen Schiffer points out that there is an important difference between conventions such as driving on one side of the road and conventions that link signs to meanings:

What is common to a convention to drive on the left and a convention to utter $x$ only when one means thereby that $p$ is that in both cases one does what the convention prescribes because everyone expects everyone to do so, but the cases differ relevantly in the way that others' expectations serve as a reason for doing what one does: in the former case one does what others expect one to do in order to co-ordinate one's actions with actions of certain others, whereas in the latter case one does what one is expected in order to secure that a certain inference is made in the surest possible way. (Schiffer, 1972, p. 151)

Schiffer is undoubtedly right about the fact that uttering $x$ in order to convey that $p$ is meant first and foremost not to coordinate actions, but to let a listener infer that $p$. And yet I do not think this is an entirely appropriate criticism of Lewis. When Lewis speaks of sign-meaning connections as solutions to coordination problems, he speaks at the same abstract level as Hobbes when the latter speaks about the social contract. Establishing a connection between a sign and a meaning is solving a coordination problem. Using a convention is another issue (it is true, though, that Lewis muddies the waters by starting with examples in which both establishing and using a convention solves a coordination problem). Schiffer merely points out that we do not use sign-meaning connections to solve coordination problems. But this does not affect Lewis' point about establishing linguistic conventions.

The distinction between establishing and using conventions helps to explain the difference between Lewis-style signing conventions and cultural conventions that are used as signposts for role-interaction. Establishing a sign-meaning connection on Lewis' account is solving a coordination problem while using such a convention is not, as Schiffer points out. In the case of cultural conventions as signposts, this order is reversed. Let me explain.

Establishing signposts is necessary only when problems of role-determination coordination are already solved (see above). This makes the process in which cultural conventions acquire the function of signalling openness to specific types of role-interaction different from the process in which linguistic signs acquire meaning. Precisely because roles and a mutual interest in role-interaction exist prior to conventions acquiring a signposting role, such signposting can be highly context dependent, coarse-grained and unspecific in comparison with a signing system the application of which should potentially be universal. This makes it impossible and unnecessary to model the process of emergence of cultural conventions as a game-theoretical coordination problem with mutually exclusive equilibria (see above).

The use that is made of the signposting function of cultural conventions is precisely aimed at a specific type of coordination. While the use of linguistic conventions may be described, as Schiffer does, as ensuring that others make certain inferences, the use of conventional signposting is aimed at facilitating role-interaction coordination. Of course we may say that signposting a given role is

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6 I thank an anonymous referee for pressing me on this point.
intending others to infer that one is open to certain role-interactions. But even so, that inference serves the purpose of coordination so that Schiffer’s contrast between coordination and securing an inference—applicable in the case of language—does not hold up in the case of cultural conventions.

Signposting roles is one way in which cultural conventions aid role-based coordination. A second way in which cultural conventions serve role-interaction coordination—which is more easily distinguished from Lewis’ view on conventions—is by providing templates for specific kinds of exchange of goods, information or services involved in connecting roles. Checking out at the supermarket, having a check-up by your GP, collecting a book at the library counter, getting information about a mortgage from the bank, teaching a class of students—these are clear instances of the kinds of exchanges of information, goods and services that characterise coordinating roles. They are situations in which specific behaviour is expected; behavioural templates generally facilitate these exchanges and hence promote role-interaction coordination. There are less-clear cases as well. Queuing for the bus, for example, involves the exchange of information about the order in which people are expected to enter the bus (Hutchins, 2014). And even going on a visit to your parents in law might under some description counts as an exchange of services. Such situations also have their own appropriate styles of behaviour. On the one hand such styles facilitate the exchange while on the other hand they help to affirm the roles that are coordinated in such situations.

With these two types of facilitating roles of cultural conventions in mind, let us come back to the example Marmor used to argue that cultural conventions such as etiquette do not serve coordinative functions: holding one’s fork in one’s left hand. It is certainly true that such a convention does not solve a coordination problem that consists of opting for one of more possible equilibria in a game-theoretical matrix. But it does facilitate both types of role-interaction coordination mentioned above—albeit, admittedly, in a subtle and not overly significant way. First, by following this convention one signals to the other people at the table that one has had a certain upbringing. In itself this falls dramatically short of determining someone’s social role(s). But still, it does signal that one is a potential partner for certain kinds of role-based exchange that would be difficult or impossible without the background one is signalling. Secondly, it is part of a template for polite dining that is a format for specific kinds or role interaction. Again, since there are very many kinds of role interaction that can be facilitated in this way, holding one’s fork in one’s left hand would not in itself be crucial for one type of coordination. But that does not mean that it does not contribute, together with many other cultural conventions, to coordinating concrete role-interactions.

There is a third type of situation in which cultural conventions aid role-interaction coordination that is easily overlooked. In many situations people who play different, unrelated roles and tasks have to coordinate their actions in the simple sense of not being in each other’s way. These are situations in which role-based coordination requires securing optimal non-interference. Think of manoeuvring through a crowded shopping mall, of letting people get off the bus before getting on one, of not speaking in a library, of queuing (again), or of holding the door for each other. We have a set of cultural conventions that function as non-strict versions of traffic laws and that serve the common interest of each pursuing our own goals—playing our own roles when not connecting with others—as undisturbed as possible in situations where we are likely to be in each others’ way. This is role-interaction coordination too.

This brief discussion of the way cultural conventions facilitate role-interaction coordination is very sketchy—at best. Yet I believe that the point is more or less evident. Cultural conventions form a social and physical infrastructure that constitutes the platform on which, or the medium within which, we solve or pre-empt role-interaction coordination problems we encounter in (massively)
divided labour. Hence, despite the fact that they do not solve rule-based coordination problems in Lewis' sense, they do play a coordinative role.

5 | ROLE-INTERACTION COORDINATION, MULTITASKING, AND COGNITIVE OFFLOADING

Is the observation that cultural conventions facilitate role-interaction coordination sufficient to explain the perceived normativity of cultural conventions? In itself, probably not. Unlike Lewis' rule-based coordination problems, role-interaction coordination problems are such that they may also be solved or pre-empted by adopting *a smaller set* of a large number of arbitrary options. What needs to be explained is why humans generally tend towards a relatively homogeneous set of cultural conventions. In this section, I will argue that the explanation for this lies in the domain of cognition. I will argue (a) that role-interaction coordination involves multitasking and (b) that the pervasive need for such multitasking can be met only by considerably lowering the need for cognitive control in role-interaction coordination tasks through standardised, relatively homogenous, cultural conventions, i.e. by offloading cognition aimed at role-interaction coordination onto the cultural niche.

(a) Consider the case of parents cleaning up a classroom. Every parent is busy with their own chore. Coordination consists of not bumping into each other, of handing each other items such as buckets or wiping cloths, or identifying new chores. These acts of coordination are required for the various roles to be coordinated, but at the same time they are short disruptions of these roles. The same holds for coordinating traffic by means of laws and signs. Stopping for a red traffic light means a brief interruption of one's journey, but at the same time it may make the difference between coordinated traffic that gets everyone to their destinations on time and congested traffic. The fact that coordination interrupts roles in examples such as these, shows that playing these roles and coordinating them are different tasks. In itself it is not part of my task to get from A to B that I stop for other cars. It is a contingent fact, though, that doing so in a coordinated fashion helps all drivers to complete their tasks efficiently. In itself it is not a part of vacuum cleaning that I step aside for the desk-wiper or hand a bucket. But it is a contingent fact that if all parents engage in such coordinative activities, all tasks will be finished quicker.

In instances of role-interaction coordination such as these, coordination and role-performance are distinct tasks that are performed sequentially. That is, coordination is secured through brief interruptions of role-performance. These are cases of repetitive task-switching known as “sequential multitasking” (Salvugi & Taatgen, 2011, pp. 8–11).

But not all coordinative activities require interrupting one's role. Think of checking out at the supermarket, asking a police officer for directions or buying a train ticket at an office, using the standard cultural templates for such interactions. Knowing these templates, retrieving and using them are a cognitive activity that enables the role of being a shopper, tourist or traveller. And yet, they are not part of the task of gathering ingredients for tonight's dinner, finding one's way in a strange town or travelling from one city to another. In another world we would have gathered the same ingredients, found the same way and made the same journey using hugely different sets of cultural templates. A comparison with the use of language is apt in this case (without affecting the differences outlined in the previous section). We use language to convey messages and engage in conversations. This requires thinking of the message or the topic of the conversation and thinking about grammar, wording, and phrasing. These are arguably distinct cognitive tasks. For one thing, the former is often conscious while the latter rarely is. Furthermore, we can convey (roughly) the same messages and engage in the same kind of conversation using different languages.
Playing a role is comparable to thinking of a message or conversation while coordinating by means of culturally fixed templates for specific kinds of interaction is comparable with thinking about grammar, wording etc. These are distinct cognitive tasks, despite the fact that one has a clear enabling function relative to the other. Playing a role and coordinating it with the roles of others in such instances is a form of what is known as “concurrent multitasking” (Salvugi & Taatgen, 2011, pp. 8–11).

(b) Multitasking is difficult, but humans are capable of it. The standard example is driving a car and having a conversation at the same time, but such examples are multiplied endlessly in the literature. The main difficulty in multitasking is our limited capacity for cognitive control, that is, our capacity to override impulses and make decisions based on our goals rather than our habits. Though there is considerable disagreement over the explanation of the limits of this capacity (see Cohen, 2017 for an overview), there is no disagreement over these limits themselves. Cognitive control is slower to execute than automatic cognitive processes, it is subject to interference by automatic processes (the famous Stroop test being the prime example here), and its processing system can be exhausted. This means that it is especially difficult for us to combine two tasks when both require cognitive control.

To improve multitasking abilities, then, is to lower the demand for cognitive control of one of the tasks (Scheider & Chein, 2003; Schneider & Shiffrin, 1977). Whether or not this should result in complete automation is contested. Recent literature suggests that cognitive abilities that were previously thought to require no cognitive control—the ability for so-called skilled action (Dreyfus, 1997)—may in fact be driven by a mix of automatic and unconscious control mechanisms (Christensen, Sutton, & McIlwain, 2016; Dux et al., 2009; Kool, Shenhav & Botvinick, 2017; Salvugi & Taatgen, 2011). But even though there is contention here, there is no debate about the idea that “multitask-tolerance” (the term is derived from Christensen et al.) requires considerably lowering the demand for cognitive control. Let us call cognitive processes with a very low demand for cognitive control “near-automatic.”

Learning processes are the typical means for achieving near-automation. The experienced driver is much better able to sustain a conversation than the novice driver. So far, this all seems to be applicable to cultural conventions as means of facilitating role-interaction coordination. Playing a role and coordinating with others is multitasking. One of these tasks—coordination—can be turned into near-automatic cognitive processing by becoming familiar with the cultural conventions that facilitate role-based coordination through the learning processes of socialisation, enculturation, and upbringing. This significantly increases our ability to play our roles and coordinate them, either simultaneously or sequentially. Given that such multitasking is ubiquitous in societies that are characterised by massive division of labour, the near-automation of cultural conventions—that make such coordination cognitively feasible on such a large scale—is a precondition for the existence of such societies. Without such near-automation, complex division of labour would very likely be severely impaired.7

The crucial point is that the research that establishes the link between learning, near-automation and improved multitask-tolerance (see Scheider & Chein, 2003 for an overview) shows clearly that learning processes that lead to near-automation require consistency of stimulus and response. Performing tasks that pertain to unpredictable or volatile stimulus environments cannot be turned into near-automatic skilled action. This is crucial because it explains why people prefer relatively

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7 It is also possible that we automate our roles and devote our conscious attention to the situation-specific demands of role-interaction coordination (thanks to an anonymous reviewer for pointing this out). Many of the more important roles that comprise our complex societies, such as those that require decision-making, do require our conscious attention.
homogeneous cultural conventions. Cultural conventions are used in the multitasking practice of role-interaction coordination in societies with massively divided labour. The considerable lowering of cognitive control needed for this ubiquitous multitasking is achieved through learning processes of socialisation and enculturation that can only get off the ground if the conventions we learn comprise a stable stimulus environment. We can only come to navigate our cultural niche in a near-automatic way if that niche is sufficiently stable and predictable.

Thus, the idea is that we offload much of the cognition required for role-based coordination onto a relatively predictable cultural niche that provides means for reliable signposting, uniform templates for role-interaction and means for optimal non-interference. This enables the kind of multitasking involved in playing roles and coordinating them with those played by others, which is the essence of massive division of labour.8

6 | THE “OFFLOADING COORDINATIVE COGNITION” HYPOTHESIS IN CONTEXT

The hypothesis I would like to propose is that the perceived normativity of cultural conventions—the feeling that cultural conventions prescribe how things are supposed to be—is at least in part rooted in their function of offloading cognition aimed at role-interaction coordination. Without the ability to offload cognition aimed at coordination onto a niche replete with cultural conventions, massive division of labour would require very frequent multitasking of the type humans are particularly bad at: combining cognitive tasks that both require cognitive control. It may be possible for an individual to get by with such multitasking for some time, for example, when adjusting to a new cultural environment. But not without considerable effort and strain. A stable society consisting of massively divided interlocking and complementary roles, jobs and tasks is hard to imagine if it would require permanent multitasking of this type by everyone. The perceived normativity of cultural conventions, the feeling that “this is how things are supposed to be”, is an expression of our natural preference for situations in which we multitask by relying on near-automation of one task and an aversion of situations in which we need to multitask by relying on cognitive control for all tasks.9

In this last section I will discuss how this “offloading coordinative cognition” (OCC) hypothesis fits in with—and arguably adds insight to—some rather diverse areas of inquiry that pertain directly to the function of cultural conventions. I will first argue, briefly, that the hypothesis is compatible with and partly supported by the existing literature on culture shock. Then I will argue that the hypothesis might shed light on the phenomenon that human infants are surprisingly quick to pick up and stick to social rules and rituals, even when this is seemingly irrational. I will argue that on the

8 The process by means of which we are socialised into this cultural niche consists in part of what Tad Zawidzki has called “mindshaping” (Zawidzki, 2013): making oneself “readable” for the purpose of role-interaction coordination by means of adopting conventions.

9 Is not this simply saying that the perceived normativity of cultural conventions hinges on an aversion of having our expectations violated? Some philosophers use this aversion to explain the reinforcement of social norms: our dislike of having our expectations violated is expressed via informal sanctions and these sanctions reinforce social norms (e.g., Bicchieri, 2006). So how does this view of social norms differ from the present view on cultural conventions? To answer this question, we should first recognize that social norms are solutions to “mixed motive” coordination games; norms (such as the norm that we should not lie) can go against narrow self-interest. Cultural conventions, by contrast, share the property of serving a common interest (on the view propounded) with Lewis-style conventional solutions to original coordination games. Even though we cannot rule out that cultural conventions are reinforced by means of sanctions (like social norms) their perpetuation is also motivated by a common interest in smooth role-interaction.
OCC hypothesis cultural conventions play an evolutionary role that provides a novel explanation of this phenomenon.

6.1 The OCC hypothesis and culture shock

Culture shock is a name for the psychological distress caused by living in a foreign culture. Most literature on culture shock is not about explaining the roots of this distress, but about establishing facts (about migration, culture differences, stages of adaptation, etc.), explaining individual or collective differences in susceptibility to culture shock, and/or about methods for countering its effects. A number of old but established theories, however, do focus on explaining distress. These are not mutually exclusive, competing explanations. Rather, they are complementary. Together they form a quilt of ideas explaining a range of symptoms that jointly make up the phenomenon of culture shock. My claim is (obviously) not that the OCC hypothesis explains all aspects of culture shock, but simply that the hypothesis fits in with some established theories.

The first of these is the grief and bereavement approach (Bowlby, 1969; Furnham & Bochner, 1986, pp. 167–168; Wexler, 2006) according to which the effects of migration can be compared to the effects of mourning. This theory is criticised because grief and bereavement are also used to explain, for example, the psychological effects of divorce and unemployment (Furnham, 1985); can a notion that is put to use in so many different cases still have explanatory value? But this criticism might in fact point to the real explanatory claim involved in the bereavement theory. Migration, loss of a job, and divorce all involve significant changes in the niche in which a person lives her life. Many of these changes pertain to routines connected with coordination of a person’s roles in life with those of others. If ingrained ways in which one coordinates one's daily activities with a spouse, with colleagues or with people of one’s native culture fall away, new routines must be established which involve new ways of role-interaction coordinating. This is likely to require a good deal more cognitive control, at first, until new routines are established. The distress involved in divorce, loss of a job, and migration has very different emotional flavours. This is simply because there are many other factors at play besides setting up new routines for coordinating with a changed niche. But in all such cases an essential scaffolding of the daily routines that structure one’s life and that form the background against which we live, act, think and feel, collapses. This necessitates a cognitive replacement—strategies to navigate a socio-physical environment to which one is not yet attuned—that is demanding on the one hand and relatively ineffective on the other. Viewed from this angle, the comparison between loss of a job, divorce, and migration strengthens rather than weakens the bereavement approach.

This connects with a second and third type of explanation of culture shock, known as the locus of control and the culture learning approaches. According to the locus of control approach, migration leads to fatalism, the generalised expectation that the outcomes of one’s actions are determined by forces other than oneself (Rotter, 1966; Seligman, 1975). Migrants who have not yet adjusted to their new cultural environment experience the outcomes of their actions as not being under their own control. The lack of attunement to a new cultural niche implies an inability to predict the way in which the niche co-determines the action’s outcome. This powerlessness is explained further by the culture

10 In particular, aspects of culture shock connecting with (a) social identification, group identity, stereotyping and discrimination (Ward, Bochner, & Furnham, 2013, pp. 99–137) and (b) practical problems that may turn migration in general into a “negative life event” (Furnham & Bochner, 1986, pp. 177–184) have little to do with the multi-tasking hypothesis.
11 Note, however, that the explanatory value of this comparison is in fact not derived from the notion of bereavement itself. In this sense, Furnham’s criticism still stands.
learning approach. According to this approach “the social behaviour of persons interacting with each other can be construed as a mutually organized, skilled performance similar to other motor skills. Difficulties arise when this performance breaks down or cannot be initiated.” (Furnham & Bochner, 1986, p. 200) This performance, crucially, is held to include “expressing attitudes, feelings and emotions; adopting appropriate posture; understanding the gaze patterns of the people with whom they are interacting; carrying out ritualized routines such as greeting, leave-taking, self-disclosure, making or refusing requests; and asserting themselves.” (Furnham & Bochner, 1986) Thus, various role-coordination-supporting conventions (“expressing attitudes, etc.”) are described as demanding low-cognitive control (“mutually organized skilled performance”) and culture shock as the inability to partake in these practices. While it is not the case that these approaches to culture shock contain or imply the OCC hypothesis, the hypothesis naturally fits into these theories.

6.2 Our natural tendency to adopt rules and rituals

Several experiments in developmental psychology show that humans, specifically infants, have a strong, seemingly irrational tendency to adopt rules and rituals. Humans are inclined to copy all kinds of (apparently) non-functional behaviour automatically and unconsciously. Chatrand and Bargh (1999) call this the “chameleon effect.” Behaviour that is learned through (natural) pedagogy and/or imitation can quickly acquire the normative status of “rule” or “convention.” Research shows that humans develop such normative sensibilities from a remarkably early age on, following complex but senseless rules effortlessly and reproaching others for not following them properly (Rakocky, Schmidt & Tomasello, 2013; Rakocky, Warneken & Tomasello, 2008; Schmidt & Tomasello, 2012). According to Sripada and Stich, the cognitive machinery required for this “begins to operate quite early in the development, and its operation is both automatic and involuntary. People do not need to turn it on, and they cannot turn it off—though it may be the case that the acquisition mechanism gradually turns itself off starting at some point after adolescence.” (Sripada & Stich, 2012, p. 295).

One of the most striking examples of our natural tendency towards rules and rituals is a 2005 experiment in which infants and chimps were subjected to a task in which they had to retrieve a rewarding object from a box (Horner & Whiten, 2005). The box has a little hatch in front of it. The rewarding object is behind the lid and could be reached when the hatch is open by using a stick to retrieve the object. On top of the box, there is a bar held by two rings. There are two variations of the box, one opaque and one transparent. Both the human infants and the chimps were first shown the opaque box. A human “model” used the stick to tap the bar on top of the box, then inserted the stick in a hole on top of the box. Only then was the hatch opened and the stick used to retrieve the object. Both chimpanzees and humans imitated this sequence of actions. Then the procedure was repeated with the transparent box. In this case it could clearly be seen that tapping the bar on top of the box and putting the stick in the hole on top of it had no function whatsoever. There was no hidden mechanism connecting this “ritual” to the possibility to open the hatch. Crucially, after seeing this, the chimps did not imitate the model’s actions (despite the fact that they had demonstrated the ability to imitate; see also Whiten, 1998). Human infants, by contrast imitated. Despite seeing that the ritual with the bar and the hole had nothing to do with the hatch, they first performed the ritual themselves before opening the hatch. This phenomenon was dubbed “overimitation.”

At first glance, the chimps’ response may seem to be the more rational one, since it “must piece together the causal links within a task in order to achieve the same result using a different method. In contrast, imitation requires only that the observer reproduce the actions of the model with sufficient fidelity to recreate the desired outcome, without having to fully appreciate the causal relationships
involved.” (Horner & Whiten, 2005, p. 165) So, are chimps smarter than human infants? Are they capable of causal reasoning whereas human infants are not?

Various explanations of human overimitation are offered. One is that “overimitation might result from the overextension of a normally adaptive learning process, (…)”. (Lyons, Young & Keil, 2007, p. 19751) In the words of Nielsen and Tomaselli, “when an adult models, children automatically assume that the adult intends for them to learn something new, and hence they interpret the specific actions of the adult as being purposeful. A mind evolved to construe actions in this way cannot be easily overridden, even when the actions demonstrated are clearly superfluous.” (Nielsen & Tomaselli, 2010, p. 6). There are other options on the table as well. Zawidzki (2013) argues that imitation is intrinsically motivating. Over and Carpenter (2013) make an elaborate case for an even more social explanation. According to them, imitation and overimitation is tied to children's need to belong to a group and to affiliate with people around them. Imitation is thought to send the message “I am one of you.”

Interestingly enough, Horner and Whiten themselves suggest that “the difference in performance of chimpanzees and children may be due to a greater susceptibility of children to cultural conventions (…)”. (Horner & Whiten, 2005, p. 164) The idea that overimitation serves the purpose of transmitting cultural conventions is also strongly defended by Nielsen (2009). Anthropological testing suggests cross-cultural consistency which supports this idea (Nielsen & Tomaselli, 2010). But this connection between overimitation and cultural conventions is not turned into an explanation of overimitation that is distinct from the ones mentioned. This is because susceptibility to cultural conventions itself is treated as an unexplained given. The OCC hypothesis allows for an evolutionary account of our susceptibility to cultural conventions, which would predict overimitation and offer a new explanation of this phenomenon that does not overlap with the explanations mentioned above.

The evolutionary role of cultural conventions is not a hot topic in the literature on the evolution of culture and cultural evolution. The most notable function assigned to cultural conventions in the literature is “symbolic marking,” that is, providing means for recognising members of one's own group. Richerson and Boyd (2005), pp. 191–236) and Boyd and Richerson (2009)) argue that easy recognition of group members has two advantages: First, it is better to imitate groups members since they possess local knowledge that is attuned to local environmental conditions; secondly, it is better to interact mainly with group members because sticking to the group moral norms and expectations means avoiding group-specific sanctions and punishments (see also Greene (2013)).

The OCC hypothesis suggests an additional and perhaps more ambitious evolutionary function of cultural conventions: enabling massive division of labour at low cognitive cost. The term “massive” is relative here. We should certainly not think of Seabright's example of shirt-making here. Rather, the idea is that even small human societies divide labour and roles in much more complex ways than can be found elsewhere in the animal kingdom and that this complexity of dividing labour has tremendous advantages for group survival and flourishing. Dividing labour allows for specialisation and honing skills. The total cognitive capability of a group is significantly enhanced when problem solving is not needlessly multiplied—it is impossible for a single tribe member to figure out or learn how to build the best houses, catch prey, grow crops, make efficient weapons, etc. but every tribe member can reap the benefits of such skills when a minimum number of tribe members specialise in them. Dividing labour not only enhances living standards and chances of survival, it also frees cognitive and manual resources that can be put in further development of technologies and refinement or tasks and roles. Thus, division of labour becomes a self-perpetuating phenomenon that continuously increases chances of survival. Early human societies that are infinitely less complex than our current global economy have, at some stage, achieved a degree of dividing labour that is incomparably
complex relative to division of labour among other animals. This will have endowed humans with a tremendous evolutionary advantage over these other animals.

If cultural conventions enable a scale of dividing labour that gives humans a serious advantage over other animals, a sensitivity to and tendency to adopt such conventions would then have given us a serious evolutionary edge. This “hard-wired” tendency may be, at least in part, what explains the phenomenon of overimitation and our natural tendency to adopt rules and rituals.

7 | SUMMARY AND CONCLUSION

In this paper I have sketched the contours of an explanation for the perceived normativity of cultural conventions that hinges neither on Lewis’ nor on Gilbert’s classic theories of convention. I have argued that cultural conventions facilitate and enable role-interaction coordination. This is important for dividing labour, which involves combining cognition aimed at playing our own roles with cognition aimed at coordinating these roles with the roles of others. Such multitasking is made possible on a large scale because we can offload cognition aimed at role-interaction coordination onto a stable social and material infrastructure of cultural conventions. Our natural tendency to prefer multitasking situations in which one task involves low cognitive control can thus explain the perceived normativity of cultural conventions. This explanation fits well with existing literature on culture shock. It also allows for an evolutionary explanation of psychological findings about our natural susceptibility to rules and rituals.

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