

Are there communicative intentions?

Marco Mazzone

Department of Modern Philology, University of Catania

mazzonem@unict.it

Emanuela Campisi

PhD Course in Philosophy of Language and Mind, University of Palermo

manucampisi@libero.it

Abstract: Grice in pragmatics and Levelt in psycholinguistics have proposed models of human communication where the starting point of communicative action is an individual intention. This assumption, though, has to face serious objections with regard to the alleged existence of explicit representations of the communicative goals to be pursued. Here evidence is surveyed which shows that in fact speaking may ordinarily be a quite automatic activity prompted by contextual cues and driven by behavioural schemata abstracted away from social regularities. On the one hand, this means that there could exist no intentions in the sense of explicit representations of communicative goals, following from deliberate reasoning and triggering the communicative action. On the other hand, however, there are reasons to allow for a weaker notion of intention than this, according to which communication is an intentional affair, after all. Communicative action is said to be intentional in this weaker sense to the extent that it is subject to a double mechanism of control, with respect both to present-directed and future-directed intentions.

Keywords: intention, goal, automatic process, controlled process, social routine

0. Introduction

The intuition that human communication has in essence an intentional character has led to theories having the notion of communicative intention at their core. The most famous examples are Paul Grice's theory in the domain of philosophical pragmatics, and Willem Levelt's psycholinguistic theory. While Grice was engaged in a philosophical project mainly focussing on the normative dimension of rationality underlying communication, Levelt's concern with the cognitive processes of language production commits him to a fully psychologically realistic attitude towards the notion of communicative intention. In other words, for his theory to work one has to assume that communicative intentions exist and have in fact a causal role in producing linguistic behaviour.

However, such a realistic attitude towards individual communicative intentions is not accepted uncontroversially. On the contrary, it has been rejected by philosophers like Daniel Dennett and anthropologists such as Alessandro Duranti. Their critiques mainly concern the assumption that speakers represent their communicative goals in advance of producing utterances. These objections have often been intended as if they were directed against the whole epistemological enterprise of cognitive explanation of behaviour. Yet, recent studies on goal-directed action in the domains both of individual and social psychology suggest now a different key of interpretation: the point is not that individualistic explanations as such miss something substantial, but rather that goal-directed behaviour might not be in general conscious and controlled. Specifically, there might not always be explicit representations of goals at the beginning of the causal chain leading to communicative behaviour.

In communication as well, a major role might be played by individual habits trained in the context of social routines. One should not draw the conclusion, though, that conscious and strategic processes play no role at all in communication. Quite on the contrary, we intend to claim that in a sense, despite its prevalent automaticity, human communication is nonetheless a quite intentional affair – though not in the standard sense according to which intentions play a direct causal role in

each communicative act. Our proposal is rather that goal-directed behaviours are subject to a double control mechanism: firstly, the online control exercised by executive processes; and secondly, the control exercised in the long run by the subject herself through explicit propositional consideration of behaviour rationality. The combination of these two mechanisms ensures that the goals driving behaviour coincide normally with the intentions we would have – if only there were intentions to guide our behaviour.

1. Communicative intentions

Grice (1989) has been the first to develop a global theory of communication as an intentional activity, but it is Levelt (1989) who changed Grice's insight into a fully psychological commitment, with his model of language production: in this model, communicative intention is conceived as a first step in the process leading to articulation. More precisely, at the beginning of this process Levelt puts a module he calls “the Conceptualizer”, having a communicative intention as input and a preverbal message as output.

Talking as an intentional activity involves conceiving of an intention, selecting the relevant information to be expressed for the realization of this purpose, ordering this information for expression, keeping track of what was said before, and so on. These activities require the speaker's constant attention. (Levelt 1989, 9)

According to Levelt, an intentional activity “serves a purpose the speaker wants to realize” (idem, 20) and is “by definition”, under some central control. Instead, when an activity is not under central control it has to be considered automatic, in that it is achieved “without intention or conscious awareness”.

As Levelt emphasizes, automatic processes are more efficient than controlled ones, in the sense that they are not limited by the span of working memory and can be performed in parallel with other processes, quickly and with few mistakes. On the other hand, a draw-back of automatic processes is their being inflexible. So Levelt proposes a modular model of language production, where some modules are under speaker's control while others are not. Specifically, the steps under speaker's control are the first and the last ones, that is, respectively, the preverbal message production and the final Monitoring. Evidence of this contribution of controlled processes, according to Levelt, is the fact that we do not entertain a fixed number of intentions that we have learned once and then use again and again, rather we can conceive of an infinite number of intentions and means apt to achieve them, while taking into account the infinite variability of contexts. However, since when producing an utterance we cannot plan everything, there must be some division of labour between automatic and controlled stages.

Now, nobody wants to deny either that speaking is an intentional activity – in the limited sense that it accomplishes some subject's purpose other than just producing correct utterances – or that speaking is a kind of flexible behaviour. The point standing in need of further consideration, according to us, is rather: does this necessarily imply a conscious control?

2. Against communicative intentions

Despite its intuitive plausibility, the assumption that human behaviour is guided by intentions has been questioned by philosophers like Daniel Dennett or anthropologists like Alessandro Duranti.

Dennett is famous, amongst other things, for his thesis according to which intention attribution is part of an explanatory strategy which does not commit us in any way to the existence of such things as intentions. In fact intentions would exist – so to speak – only in the eyes of the observer when she adopts what Dennett (1989) calls the “intentional stance”. One of his chief arguments to this effect concerns the alleged semantic indetermination of intentions: as it is well known by philosophers, it is far from easy to say exactly which beliefs and desires are involved in a single action. There are so many beliefs and desires potentially involved, and so many ways we

could phrase them! These considerations concern linguistic behaviour in an obvious way: when we say that communication is a form of intentional behaviour, are we postulating the existence of a determinate intention as a causal trigger of the communicative action? Levelt appears to be confident that communicative intentions have (or, better, produce) a determinate pre-verbal content, given in a language of thought. Fodor's language of thought hypothesis, though, has been seriously undermined by empirical and theoretical considerations: it seems clear that words are correlated to modal representations, while there is no evidence for amodal representations of the kind Fodor had in mind (e.g. Barsalou et al., 2003). In any case, it is not clear that adopting Fodor's hypothesis can solve the problem of meaning indetermination in Levelt's framework: if we entertain conscious communicative intentions in a language of thought, why is it in general so difficult to say exactly what our intention is?

Duranti (1998, 2007) proposes a quite radical answer to this question: either we do not entertain conscious communicative intentions at all, or, even in case we do, these intentions are not what does really matter. Linguistic behaviour is embedded in social routines which have a social normative "strength" of their own. Consequently, what a speaker does in a conversation is not simply what she consciously thinks she is doing: when we enter a routine it is this routine which essentially decides for us. We could speak here of sort of proxy-intentions: intentions we might not entertain consciously, or even represent at all, but that are socio-normatively embedded in the behaviours we are engaged in.

One would be tempted to reject those objections in the face of the strong intuition that our behaviour is directed toward goals, is (in part) conscious, and is flexibly open to an indefinite variety of contexts. The point, however, is whether we have reason to think that these three features are combined in the expected way – that is, whether behaviours are triggered and guided by conscious representations of goals and whether this is the reason why they are so flexible. There is growing evidence that this picture is wrong for one aspect or the other.

3. Automatic goal-directed action

In the last two decades, a large body of research in social and individual psychology has shown that in human behaviour goal pursuit can be non-conscious and automatic.

To start with, Bargh and colleagues have conducted pioneering research on unconscious mimicry of others (Bargh 1989; Dijksterhuis et al. 2007). This work initially focussed on "inconsequential actions" where one does not expect any real goal to be involved: foot shaking, nose rubbing and the like. However, the road was open to the hypothesis that generally speaking our behaviour is unconsciously affected by others more than we are inclined to concede. In fact, subsequent work has shown the same pattern in goal-directed actions as in non purposive ones. For instance, the presence of significant others seems to unconsciously activate specific attitudes towards pursuing goals (Fitzsimons and Bargh 2003). Other studies have also shown phenomena of unconscious goal contagion by others (Dijksterhuis et al. 2007, 100).

Moreover, it has been shown that priming goals "automatically activates behavior representation and resultant action according to an 'if-then' rule, enabling the goal-directed behavior to occur directly and independent of conscious intentions" (Dijksterhuis et al. 2007, 105). In those experiments goals are for the most part explicitly stated, so the results do not count as evidence that people act without explicit intentions. However, the experiments are revealing with regard to the pervasive role of habits in goal-directed actions. Habits are presumably stored as behavioural patterns in our long term memory by means of associations between goals, behaviours and contexts. In the experiments cited above, associations of that sort might explain the priming of actions which are frequently used to reach the primed goals. But, once we assume the existence of such associations, there is no reason why we should not expect that contextual cues – instead of goals – might directly trigger actions on occasion.

This conclusion seems supported by the comparison between animal and human studies. de Wit and Dickinson (2009), in order to account for a number of results in animal studies, draw a complex model where two different routes interact in the selection of action. One route is based on

an outcome-response mechanism, where the representation of the expected outcome trigger the response, while the other route lean on a response-outcome mechanism, where the expectation of the outcome follows the response rather than preceding it. The scholars suggest that this model could apply to human cognition as well, and that the response-outcome route might prevail when humans are involved in routinized activities.

Continued reinforcement should strengthen the $S \rightarrow R$ [stimulus – response] association in the habit memory to such a degree that the presentation of the stimulus can reliably trigger the motor unit for the response before the longer feedback pathway through the associative memory can evaluate whether the outcome is currently a goal for the animal. (idem, 471)

In other words, at the moment that behaviour is initiated the outcome might not be represented at all, or at least, the representation of the outcome might not be the reason why the behaviour is initiated – since the subject has not yet evaluated whether the expected outcome is one of her goals.

In general terms, routinization of goal-directed actions can be described as “the effective delegation of (part of) action control to the external environment and its stimuli, so that its effective functioning resembles a stimulus-response reflex, which is much less demanding than attentional control” (Pezzulo and Castelfranchi 2009, 568). An impressive illustration of this phenomenon has been given through stimulation of cingulate motor area in epileptic patients. When stimulated, these patients produced a variety of coordinated manual, buccal and oculomotor actions. Most interestingly, as soon as they were given an object during stimulation, a complex pattern of object-related movements was evoked.

For example, when one patient was given a cigarette, they lit and smoked it in a compulsive manner, stopping smoking when stimulation ceased, and restarting when stimulation restarted. (Pacherie and Haggard forthcoming)

This sort of evidence seems to show the existence of a brain circuit for automatic selection of behaviour, based on the storage of routinary actions and the automatic triggering of these routines by means of environmental stimuli. In this line, Pezzulo and Castelfranchi (2009, 568) underline the importance of introducing in their own model of goal-directed systems a feature not included in “traditional control-theoretic models”, that is, “the assumption that action schemas can be automatically activated by objects and events (including social ones)”.

The impact of such considerations on the issue of communication is enlightened by Garrod and Pickering (2007). In assessing Levelt's model, they ask themselves whether considering the actual dialogic format of linguistic performances would make any difference. Their answer puts emphasis on the fact that “[i]n dialogue, what one interlocutor says imposes constraints on what her partner can say next. For example, a question usually requires an answer.” As a consequence, dialogue “may make production more automatic” (idem, 10). Here reference is made to the existence of verbal routines delivering automatic processing. Answering to a question is largely an automatic response, triggered by the question itself without any deliberate consideration of goals. It should be noticed, however, that these routines may not only concern linguistic behaviours such as question-and-answer pairs: social routines of any sort could constrain types of communicative moves. For instance, Levinson (1992) has proposed that we store in memory – on the basis of social regularities we are exposed to – a large variety of “activity types”, conceived of as “goal-defined, socially constituted, bounded, events with constraints on participants, setting, and so on, but above all on the kinds of allowable contributions” (idem: 69). Activity types are supposed to have a sequential structure, as far as they prescribe which moves, be they communicative or not, one has to perform at any point of a given activity. The participation to such social regularities can therefore be expected to produce routinization of behaviour of the kind envisaged by Garrod and Pickering; as a consequence, as soon as the agent is engaged in social interactions, she is prompted to react quite

automatically to preceding pieces of behaviour in accordance with the shared procedures.

The conclusion to be drawn seems to be that Dennett's and Duranti's intuitions pointed toward some robust cognitive facts: human behaviour is not always caused by explicit, conscious representation of the goal to be subsequently pursued; this happens, amongst other things, because we are exposed to routinary social actions, which in the course of time become automatic and therefore gain some strength of their own; this is why, in turn, people can act without any determinate idea of their goals – in many cases there were no goals, in fact, and one has to infer them from behaviour, social regularities and previous personal propensities.

4. Doing without intentions?

Should we then conclude that intentions simply do not exist, except from the side of the observer? Not exactly.

Let us concede that we should better not speak of intentions unless there is, in advance (and as a cause) of acting, an explicit representation of the goal to be pursued. To be true, the most accurate philosophical definitions of “intention” are even more demanding than this: they make reference to a practical reasoning procedure whose result is the representation of an explicit goal – as Bratman (1987) puts it, intentions are terminators of practical reasoning about ends (see also Pacherie 2006). The psychological literature seems ready to embrace this definition, too: for instance, Aarts and Custers (2009, 319) distinguish between goals and intentions on the basis of the fact that the latter “are the product of conscious deliberation”. In line with such definitions, we could justifiably say that in most cases human behaviour is not driven by intentions.

However, here is where one feels the urge to accommodate two opposite but equally strong intuitions. On the one hand, it is hard to believe that human actions are ordinarily driven by intentions which are freshly produced as a result of deliberative processes; in fact, as we have shown, there is evidence that our goal-directed behaviours can be quite automatic instead. On the other hand, there is a strong intuition that what distinguishes human from non-human action (and communication) is its intentional, voluntary nature. How can these two intuitions be accommodated within a single picture? Our answer is that canonical intentions, despite their being very infrequent, occupy nonetheless a crucial position in human behaviour, while plain automatisms play a very modest role in our lives. Our “automatic” behaviours are always couched within a complex, multiple control system.

We will now address the question at two different levels: the online control that executive system performs on current behaviour, and the way in which conscious decisions and deliberative processes may affect even our automatic drives. These two levels partially parallel the traditional distinction between intention-in-action and prior intention (Searle 1983), or between present-directed and future-directed intention (Bratman 1987; see also Pacherie 2006).

4.1 Online control

It would be misleading to think of automatic habitual actions as if they were wholly inflexible. If this were the case, only a little part of human behaviour – and certainly *not* linguistic behaviour – could be automatic. To be true, as de Wit and Dickinson (2009) observe, even the behaviour of other animals is far from being rigidly inflexible in any case. In fact, the model proposed by de Wit and Dickinson is also intended to explain how a significant amount of flexibility can be obtained (both in animals and in humans) thanks to a complex system of forward plus backward associations between stimuli, responses, outcomes and rewards. Does this system appeal in humans to the intervention of conscious and controlled executive processes? Maybe not – at least, not in many cases. Even the selection amongst existing behavioural schemata, their hierarchical organization, and the feedback control of the fit between intended and actual outcome, seem often to be performed without consciousness. Nonetheless, Hassin et al. (in press) concede that, in the face of novel and non(wholly)-routinized circumstances, a flexible behaviour seems to require the involvement of working memory and executive functions, though they claim that also these effortful controlled processes must not be conscious. However, Jeannerod and co-workers have shown that this depends on the difficulty of the task (Fournieret and Jeannerod 1998): there are

cases in which the task obliges subjects to consciously attend to their own behaviour and its fit with the intended outcome. In such cases an explicit conscious representation of the goal is needed for behaviour control, even if this representation is not what has triggered the action at first.

But conscious control seems to have a much wider range of applications than just situations where achieving goals is difficult or problematic (contrary to what Dijksterhuis et al. 2007 have suggested). Recall the compulsive behaviours obtained through stimulation of cingulate motor area in epileptic patients, referred to by Pacherie and Haggard (forthcoming). If, on the one hand, this sort of evidence shows clearly the existence of behavioural schemata apt to be automatically triggered by environmental cues in the appropriate conditions, on the other hand it is quite apparent that human behaviour is normally not as rigidly prompted by the mere presence of external stimuli as it was in those experiments. Rather, compulsive behaviours of that sort are typically attested when executive system is pathologically disrupted, as in the famous case of Phineas Gage: he could not help being distracted by objects which prompted stereotyped behaviours, so that he had become unable to coherently pursue the higher-level goals involved in his daily duties (Damasio et al. 1994). The maintenance of high-level goals and their “shielding” from environmental stimuli are essential for pursuing what Pezzulo and Castelfranchi (2009, 564) call “distal intentions”:

distal intentions require extra mechanisms to support self-regulation over long periods of time; these are the hallmark of executive functions, such as the ability to ‘shield’ these intentions from distracting opportunities, and dedicated memory mechanisms. The passage from proximal to distal action is therefore a major evolutionary step, requiring a sophisticated form of control.

An integral part of what we call intentional behaviour is precisely this ability to maintain current courses of action while inhibiting alternative ones, especially stimulus-dependent responses. This feature of intentional behaviour apparently concerns more the pursuing of goals than their previous selection: an action is deemed intentional in this sense to the extent that the appropriate goal is consistently pursued, without any requirement that this goal, having been consciously selected, be the triggering cause of action. At the same time, the above-mentioned mechanism clearly involves much more than mere bottom-up activation of behavioural routines: it rather calls for a top-down process where consciously adopting a goal is a key prerequisite for its being pursued.

It seems that a crucial role in this process is played by a brain circuit encompassing both lateral and orbital prefrontal cortex, and anterior cingulate cortex. These areas, as summarized by Fuster (2001, 324), are essential for the organization of goal-directed actions:

The anterior cingulate seems involved in the motivation to perform them [i.e., goal-directed actions], the orbitofrontal cortex in the suppression of distractions that interfere with them, and the lateral cortex in the mediation of their cross-temporal contingencies.

A well supported model of the role played by prefrontal areas in conscious control appeals to the formation of “reentrant loops” in the cortex. According to Dehaene and Naccache (2001), prefrontal cortex must cause top-down amplification of sensory and motor neuronal assemblies in order for sensory-motor representations to become conscious. More precisely, local assemblies need to be independently activated through bottom-up processes, and then merged in a larger circuit involving “higher association cortices interconnected by long-distance connections and forming a reverberating neuronal assembly with distant perceptual areas” (Dehaene et al. 2006, 205). The formation of such self-sustained long-distance loops is then believed to produce a “global workspace”, which might account for both conscious integration of information and its maintenance in working memory until current goals have been accomplished.

Interestingly, top-down processes mediated by prefrontal cortex not only may maintain goal-directed actions by amplifying the activation of current behavioural schemata and actively

inhibiting alternative ones; besides, they can also probably affect automatic processing involved in pursuing goals. As Kiefer (2007, 293) puts it: “A given attentional (or intentional) state might be necessary for unconscious stimuli to trigger further processes”. More specifically, Kiefer adopts Neumann's (1990) theory of “direct parameter specification”, according to which

[Subjects] search for information in order to specify free parameters within the currently active intention/action plan. Unconsciously registered information that resembles this searched-for information is selected and processed to specify the free processing parameters. Therefore, unconsciously perceived information will translate into behavioural effects that are absent if the same information is sufficiently dissimilar from the searched-for features. (Kiefer 2007, 300)

In other words, attentional amplification due to top-down intentional processing allows stimuli to affect behaviour even when they are not consciously perceived.

In sum, there is large evidence that intentions-in-action, or present-directed intentions, have an important role to play in human cognition – specifically, i) in the execution of new and difficult tasks, ii) in inhibition of alternative courses of action, iii) in the processing of unattended stimuli. This is not to say that human agents are driven by intentions with a precise propositional content. All we have seen so far is, rather, consistent with the hypothesis that present-directed intentions consist in the attentive amplification of sensory-motor assemblies globally representing actions in contexts. Furthermore, even assuming that those assemblies code for goal-oriented action schemata, it is far from clear that intentional control requires goals to be explicitly attended in any moment, and in particular that they have to be attended from the beginning. Quite on the contrary, an automatically activated response might as well support a present-directed intention, to the extent that it is part of a goal-directed behavioural schema.

If we transfer our tentative conclusions to language processing, we might plausibly say that speaking is intentional in the sense of present-directed intentions: it is an attentional activity, relatively shielded from distracting stimuli, and clearly affected by top-down processes. This does not rule out the possibility that our communicative moves are largely specified by schemata automatically activated by environmental cues, in line with the previously considered suggestions of Garrod and Pickering (2007).

4.2 Future-directed intentions and practical reasoning

While present-directed intentions, as we just claimed, are presumably an integral part of our communicative behaviours, planning those behaviours in advance seems to be something that only exceptionally occurs. To analyze the issue more precisely, we should better trace here a distinction between, on the one hand, the capacity to plan in advance to do something when certain circumstances obtain and, on the other hand, the ability to perform reasoning procedures in order to establish what would be preferable to do in certain circumstances.

With regard to the first point, Pacherie and Haggard (forthcoming) recall the notion of “implementation intention” (Gollwitzer 1999) as a crucial component of prospective memory, that is, the capacity of remembering to perform an action in the future. Implementation intentions can be defined as “specific plans that identify both an appropriate goal-directed response and a suitable situation in which to initiate that response” (Webb and Sheeran 2007, 295). Specifically, the subject recall (or create anew) an *if-then* rule, where the *then*-component relates to the goal-directed response while the *if*-component relates to the situation offering a suitable opportunity to act. As a consequence, implementation intentions are expected to enhance the accessibility of the specified situational cues, and also “to forge an association between that cue and a response that is instrumental for obtaining one’s goal” (idem, 296), thus facilitating action initiation in the appropriate circumstances. In a sense, implementation intentions are similar to routinization, in that both create associations between environmental cues and behaviour, with the difference that the former is a “one-shot” decisional process – that is, forming the association does not require repetition.

In the same vein, Hommel (2000) speaks of “prepared reflexes”, that is, cases where

“intentional processes do not actually carry out S-R translation, but only configure the cognitive system to do so automatically, once the defined target stimulus arrives” (idem, 265). Just as present-directed intentions seems to affect unconscious processing (let us recall the “direct parameter specification” theory), so prepared reflexes show the existence of complex patterns of interaction between automatic and future-directed intentional components:

although intentional states may determine which rules are selected, formed, and implemented, once they are established, stimuli seem to have direct and uncontrolled access to these rules, leading to automatic translation via intentional routes. (idem, 261)

Hommel also addresses a different kind of interaction between intentionality and automaticity: the case where they conflict each other. A well-established paradigm in psychology consists in studying the effect of will by contrasting it with overlearned habits that need to be overcome. Specifically, a particular S-R association is first acquired through extensive practice, then subjects are required to react to the same stimuli with different responses. Since at this point a controlled, effortful process is needed to counteract the now dysfunctional habit, two consequences are expected:

(1) increased reaction time to stimuli previously associated with a different response; and (2) increased occurrence of [...] “intended errors”, that is, production of the previously associated but now incorrect response. (idem, 252)

On the one hand, this means that habits may gain a certain autonomy from intentions: de Wit and Dickinson (2009, 471) speak in this sense of “behavioural autonomy” with regard to the way in which “slips of action occur when well-practiced responses intrude to compromise our goal-directed behaviour”. On the other hand, however, it is important to underline that, difficult as it can be, intentional actions sooner or later succeed in overcoming habits – to the point that after practice intended behaviours undergo a similar process of routinization and become habits. Prior intentions can therefore affect our present behaviour in at least two ways: through the effects of implementation intentions, and through routinization of intended actions. In both cases, automatic behaviour can follow as a consequence of associations formed under the control of intentional processes.

Interestingly, intentional preparation of automatic behaviours also plays a key role in the insightful analysis of free will offered by Dennett (2003). Based on Kane's (1996) proposal, Dennett makes the claim that free will is not incompatible with automaticity; quite on the contrary, since our conscious decisional processes need time, we had better routinize a large part of processing in order for us to be ready for rapidly reacting to environmental stimuli in exactly the way we intended to do. Furthermore, as we showed previously, intentional action might require that we overcome some habits, and this might require in turn that intentional action is routinized, if any efficiency has to be gained. In other words, habits can be an essential instrument for preparing ourselves to make difficult choices, so as to be forced to do the right thing at the right moment. This intentional preparation of automatisms is what Kane calls “self-forming actions”.

Until now, we have considered how, given a goal, people may facilitate its accomplishment by creating new associations; nothing has been said about the way we settle the goals to be pursued. In a rather trivial case, “our” goals could be something we have simply been told to do. For example, the doctor prescribes us to assume a pill, and we find it useful to associate this goal with some daily routine which may help us not to forget it. Or, for another example, the ski instructor explains us how to correct a wrong position, and we keep trying until the old routine is substituted by the correct one. In both cases, there needs to be no direct and explicit assessment of the specific goals at play: rather, we defer to someone else to whom we accord the authority to tell us what is the best things for us to do – of course, we have a personal interest in our health, or in skiing, but we do not need to explicitly attend to the rational relationship between these overarching goals and

the immediate goals we are adopting.

A different case is when we do explicitly consider our behaviour's effects, and the reasons why we should, or should not, produce those effects. These are genuine cases of practical reasoning on ends, delivering genuine intentions – in accordance with Bratman's definition. Of course, it does not happen frequently that we stop acting in order to reflectively consider pro and con of our courses of action, and the worthiness of their respective goals. However, we should not underestimate the role of deliberative processes in our lives. Firstly, one single episode of deliberation may possibly affect many future behaviours in that they are all directed towards the same deliberated goal. Secondly, each deliberation may have a great number of consequences also because of the generality of its conclusions. Suppose, for instance, that you decide to learn skiing: you could be inclined to search for a ski instructor even without any explicit deliberation, just because you have in other circumstances reflected on the importance of being taught by experts. Thirdly, we should consider how often we engage in social practices involving the evaluation of behaviours and goals: starting from parental education and going on with school teachers, friends and then colleagues, we are continuously confronted by situations where reasons for behaviours are given and asked for. This social space of rational discussion allows us to repeatedly reconsider how appropriate and justified our and others' behaviours are. Finally, it should be taken into account the internalization of such social dialogic aptitude towards considering reasons for action, and comparing actions with norms and values. Even when we act automatically, social as well as idiosyncratic norms of action may be activated and affect our behaviour in many ways. For all these reasons, we can expect that in the long term most of our habitual goals have been assessed by some sort of rational deliberation.

In sum, given the variety of ways in which intentional decisions may shape habits and automatisms, it does not seem inconsistent to claim that many automatic behaviours might have been caused by prior intentions. This conclusion applies to communicative behaviours as well. For instance, we could bring forth the communicative intention to give a certain information to a colleague the next time we meet her – a clear example of implementation intention. Or we could reflectively consider how appropriate is to give that information. But even in the ordinary case where the precise content of our communicative behaviour is not figured out in advance, that behaviour is constrained in various respects by the way in which prior deliberated intentions have shaped our habits.

5. Conclusions

It might be true, and probably is, that we often do not need to be conscious from the beginning of the goals we are pursuing, but representations of such goals may nonetheless be activated at some point to some extent, and may be strategically attended when needed. Similarly, it is certainly true that in most cases our behaviour is not delivered through conscious deliberation, but nonetheless we ordinarily pursue goals that at some point in our experience have been consciously perceived as worthy of being pursued. In a prototypical sense, then, intentions are representations of outcomes, they follow from explicit deliberation, are causally responsible for subsequent action and involved in its conscious control. However, we would call an action “intentional” also when it is directed towards a goal we could have adopted consciously, if only we had considered it, and when this goal can be represented in the service of conscious control of behaviour when needed.

It seems clear to us that communication is almost invariably intentional in the latter sense: we are immersed in a host of habits to the point that we hardly need to reflectively choose the kind of communicative move we are going to perform; nonetheless, the outcomes of our behaviour are soon represented as expectations, can be recruited for executive control of action, and can also be recognized by subjects as their own goals. Human communication is mostly an intentional activity without intentions – without any deliberate selection of goals as a causal determinant of current action.

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