Of Ability Statements

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Abstract. Attributions of abilities play an important role in the way we make sense of each other conduct. They are yet insufficiently inquired as specific kinds of attributions. Here, they are assimilated or ignored in the accounts in terms of beliefs and desires, or basic cognitive capacities, there, they are considered as subjective generalisations. An analysis of the semantics and logic of these attributions, that mainly use "can" and "be able", enables to see how they differ from subjectivist attributions, and from the dispositional statements traditionally devoted to physical powers. As they do not fit into an "intention-trying" or a "stimulus-manifestation" schema, they require to be inquired through an "opportunity-achievement" schema.

1 Introduction

It is frequent to attribute abilities to people: "he can play chess", "he can speak Russian", "he is able to climb". We mainly use "can", sometimes "to be able to", "to be capable of" or other dispositional adjectives ("he is agile"). This is an important part of our attribution practices, concerning both attributions of psychological and of physical properties to agents, fitting our being often more interested as we are in what people can do than what they have done. This is also, as just suggested, a rich and varied practice, using different linguistic paths, and targeting many different kinds of action, from the more sophisticated to the more basic. Yet this richness is not always fairly considered in our contemporary philosophical accounts.

What do we exactly attribute to someone when crediting him with an ability to do something? In which cases do we attribute them?

2 A first problem: the non-objectivist readings of abilities

We could think that "John is able to play chess" has more to do with the application of subjective criteria or generalisations. What it is to be competent or good at something differs depending on the standards one accepts, and perhaps there is no fact of the matter about whether one has really such and such ability. In other terms, the attribution of an ability would reflect something about our practices of attributions, but not about something otherwise real[1].

We would have to account for different practices of attribution, explaining why "If someone plays chess once, then he is able to play chess" whereas "If someone hits the

[1] This may have Wittgensteinian accents. However, given the complexity of Wittegenstein's view, I shall not deal inquire into this reference in details here.

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bull's eye once, then he is not necessarily able to play darts". Given our background knowledge about these games, and what it requires to play chess (not something than can happen by chance) versus what it requires to hit the bull's eye (either chance or huge dexterity), we would be warranted from one performance to expect some others in the chess case, but not in the dart case.

Yet the difference between "can" and other epistemic modals gets less clear:

1.a. John can play chess
b. John may play chess
c. It is probable that John plays chess next time he wants to.

This proximity is visible in other examples such as:

2.a. It can rain.
b. It may rain.

These substitutions give an epistemic reading of "can" that would make our can statement something else than an attribution, more like a reflection of state of knowledge or an hypothesis (given the recent literature on epistemic modals, I shall not enter here into further detail). This would be a minimalist reading of ability attributions, making them relative to an epistemic state of the speaker.

It is true that the cases are sometimes difficult to distinguish. Take:

3. a. Given the evidence, John can be in his office
b. Given the evidence, John can swim.

Yet we do more with an ability statement than in the epistemic modal case.

3.c. (Given the evidence) John can / might be in his office.
d.* (Given the evidence) John is able to be in his office.
e. (Given the evidence) John is able to swim

How are we to account for the substitution in one case, and not the other? Epistemic modals are absurd or odd when uttered in a situation where the event is realised and observed. Imagine the utterance of the following, in a case where John is seen to be in his office:

4.a. John can / might / must be in his office

Nothing prevents, on the contrary, an ability reading in the case where John is seen swimming:

5. Oh, John can swim.

Indeed, and as we will see also later, it is important to warrant the informative character of a (possible) inference from the actual performance of an action to the ability. (More on this later). If it is true that we have to learn to perform these attributions,

and that they depend on several epistemic states, yet it is not the case that there can be reduced to epistemic modalities. It is actually a fascinating, yet under-developed area, to see how children acquire the capacity to perform those attributions. Early experiments by Harriet Saklee and Diane Tuckler completed later by studies by John Nicholls and Collen Surber[2] , and work in social psychology have shown the importance of computing informations about effort and motivation devoted to the task, evaluating the success of a single performance and the relative success of a series of performances. I shall not inquire here further in these different steps, and just underline that, for all spontaneous, these attributions are complex and may well obey complicated inferential schemas.

The fact that they secure epistemic expectations should not be take as the sign that are based on nothing but epistemic expectations. Attributing abilities is not just a question of what I subjectively expect you to do in the future.

3 A second problem: abilities as pure causal powers

It is frequent to think that abilities just partake in the physical enabling conditions of an action that has to be otherwise accounted in rational or intentional terms. Indeed, there seems to be no difference between the following sentences, despite the fact that they concern different kinds of abilities (physiological, physical – and more or less basic, perceptual, mental skills and classical cases of "know how")

5.a. John can digest food
b. John can lift 100 pounds
c. John can swim
d. John can see her
e. John can play chess

These three sentences allow the following substitutions:

6.a. John is able to digest food
b. John is able to lift 100 pounds
c. John is able to swim
d. John is able to see her.
e. John is able to play chess

Which seem to be also the case of pure causal descriptions such as:

7.a. This crane can / is able to lift 100 pounds

So while differentiating ability modals and epistemic modals, we may have indeed draw a distinction between objective generalisations and subjective ones, the former reflecting the reality of a causal relation in the world in the way dispositional statements do. The contemporary literature on dispositions considers that all the previous skills and abilities fall under the same kind of analysis provided for purely physical

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dispositions[3], like fragility or solubility. Dispositional adjectives may indeed be used indifferently in both kinds of attribution, and equally paraphrased by "can". "A glass is fragile" means "it can break", and "John is irascible" means "he can behave in an angry way". All these statements also support[4] some counterfactuals of the form: "in conditions C, if (stimulus), then (manifestation)"

8.a. "In conditions C, if the sugar was put in water, it would dissolve"
b. "In conditions C, if John was annoyed, he would behave in an angry way".

The closeness between descriptions of natural powers and human dispositions would conflict with the idea that there is something more than causal about human abilities. Yet the difference is needed to explain an asymmetry: from the occurrence of the same chain of causal events, even repeated, we may or may not infer to a "can / be able" in case of humans, whereas we would in case of natural substances or artificial objects.

Take for instance:

9.a. He topples and falls.

In normal circumstances, it does not lead to a:

9.b. He can/ is able to topple and fall.

Yet, if one discovers that the person is a clown rehearsing for a play, he will infer to 9.b. from the same sequence of causes and effects. Is it possible to discriminate between attribution of pure causal powers, and something "more" that would count as distinctive abilities? If possible, how do we so?

4 The restrictions on the ability reading

Another important point to notice is the relatively narrow set of verb phrase available for ability statements. Epistemic modals, by contrast, being relative to a context or a state of information, can be applied to all sorts of events, and accommodate all sorts of VP :

10. a. The suspect can be short (stative)
b. * The suspect is able to be short
c. John can be swimming at the moment (progressive)
d. * John is able to be swimming at the moment
e. John can be stuck somewhere in a traffic jam (passive)
f. * John is stuck to be blocked somewhere in a traffic jam

[3] See for instance Tim Crane's introduction to C.B. Martin, David Armstrong and U.T. Place (1996) *or* Mumford (1998) especially introduction and chap. 2-3

[4] The exact nature of the link between dispositional statements and counterfactuals being the object of several debates, it is careful to be satisfied with the notion of "support".

Let's consider these cases separately, and see whether they tell us something about abilities.

4.1. Ability to do

Interestingly, the ability readings are available with what Martin Hackl [5] relevantly calls "change-denoting" verbs. "To have the ability to be" when not absurd, engages interpretation in the direction of an "ability to become" or "to behave as".

10. b. * The suspect is able to be short / to be your brother
g. John can be / is able to be distracted (= he is able to behave in a distracted way)
h. (The teacher says to his parents) John can be a lawyer / is able to be a lawyer (= he is able to become a lawyer)

What does this tell us? Sentences like 10.a concern some categorical property to the subject, i.e. something that, if the subject has it, it has it unconditionally. It is possible that a conditional is introduced by our possible ignorance, but no more. It does not make the event denoted by the VP a conditionally manifested one.

This suggests that sentences welcoming ability readings (as "John is able to swim" or 6.a-e) do not directly ascribe the subject with a categorical property, but a conditional one that may or may not be realised.

It is thus a *necessary* fact about the abilities we ascribe that they are not always manifested. Indeed, this is shown by the oddity of:

11. a. * John always is able to swim.
b. * John always is able to be a lawyer

This is a point that the literature on the logic of ability and agency[6] underlines. The requirement is that "ability to do F" implies "ability to not do F". In other terms, an ability ascription would have two faces: an ability to do F, and the ability to abstain from F. Yet this may be a too strong reading, as we shall see later.

Let's us just conclude on the latest point that abilities come with a change-denoting clause and ascribe a conditional clause to the occurrence of the change.

4.2. An intermediate problem: perceptual abilities

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[5] Hackl, Martin (1998) is, to my knowledge, the most extensive and recent one devoted to the topic of ability modals, and a good part of the data here presented have to be deferred, for further linguistic details, to him.

[6] Contemporary logic of agency starts with Von Wright, G. H.(1963) *; f*or a general development, see for instance Nuel Belnap (1991). On recent developments on logic of ability, see Brown, M. (1988)..

As noticed briefly in Hackl (p.) this is supposed to make the ability reading in the case of perception verbs less easy to interpret. To see or hear, or taste are not supposed to change things, as traditional action-verbs (or change denoting verbs) are. Take the following substitutions:

12.a. The monkey saw the banana / (* The monkey did something so that he finally caused the seeing of the banana)
b. The monkey picked up the banana / The monkey did something so that he finally caused the picking up of the banana.

Yet, from 12 a. and b. we are equally happy to say:

13.a. The monkey can / is able to see the banana
b. The monkey can / is able to grasp the banana.

This point suggests that perceptual abilities require a special analysis. It seems indeed that there is a "change denoting" part in perceptual verbs, available as attention directing changes, and that this is what counts as abilities.

Indeed if it is strange to say:

14.a. * The monkey did something so that he finally caused the seeing of the banana.

It is possible to notice that:

14.b. There is something about the monkey that made him finally see the banana.

As far as some parts of the perceptual process are about the bringing of a result, like directing gaze, being attentive to, they make sense of the attribution of a perceptual ability. This is what makes sense of cases like:

15. Your eye is sensitive to the change of colour but you can't see it changing.

(Perceptual abilities are not strictly attributed to organs: "her eyes can see", no more than to inanimate objects ("the camera sees you") except metonymically – but to agents. Cognitive and computational capacities are, by contrast, attributed to organs or bodily parts, but they differ from the abilities at stake here. Consider for instance: "her visual system can compute depth, distance, and changes of colours").

Let's underline:

- that perceptual abilities require a more specific and subtle analysis;
- that the change-denoting verb phrase does not necessarily attribute the responsibility of all the bringing about of the change to the agent, but at least some significant part of it. It is what makes the difference between purely sub-personal capacities, and abilities.

As we shall now see, this has much to do with the fact that the "significant part" consists in the achievement of the change, which is considered at the personal level.

4.3. Ability to engage in an action and ability to achieve?

Let's now move back to our previous examples.

10.c. John can be swimming at the moment
5.c. John can swim

That the ability reading is available for 5.c. but not 10.c. (whereas the epistemic reading is potentially accessible for both) suggests that ability goes with the achievement of an action. When we attribute an ability, we are not just concerned with the possibility to enter a process, but to complete it. Whenever it is just a process that is noticed, we should not consider that the corresponding ability has to be attributed.

Take for instance the action of singing. There is a sense (S1) in which a singing is the utterance of notes and rhythm, another (S2) in which it comes with the achievement of some song. In the first sense, everyone can sing (in the shower) but not everyone in the second sense can sing. This double reading is visible in scenarios like:

16. a.- He sang at their wedding.
- I didn't know he could sing.
- Well, that's the problem, he can't…(he has never been able to)

If there wasn't such a double understanding of "sing", we would face a contradiction like, at time t when the singing is performed:

16.b. He can sing (S1) but he can't sing (S2)

Ability statements thus come with an achievement clause. There is more than just a way for John to engage in an action, recognised by the attributer to be of a certain kind (acknowledging for instance, that the singing (S2) is an instance of singing in general, for which (S1) sets the standards). When I say that:

17.a. John can sing / swim / play chess

I say more than: he is able to engage in a singing, swimming, playing chess, but that he can achieve these actions, which come with certain accomplishment standards.

This is particularly important also in the case of babies (and perhaps animal). It is not just when I see that the baby wants to walk and topples that I say: "She can walk".

It is the same for speaking for instance. "She can speak" doesn't come just when the baby shows an intention to communicate and utters some sounds, which the attributer can acknowledge as an instance aiming at certain standards of achievement. It means that the achievement of the activity is part of what the baby does.

As a further test, the nominalization is accessible only for the achievement reading. In the wedding singing event case, we would not say that "He is a singer" unless he can sing(S2). In the case of speaking a foreign language, to be qualified as "a speaker"

comes also with strong achievement conditions (perhaps just the native speaking is available here). But as the pragmatic constraints and differences of cases may be important here, I shall leave it as a suggestion.

Abilities come with an achievement and not a trying condition. It is here perhaps that the subjective aspect can be reintroduced, as speakers may differ on what they consider as an achievement.

4.4. Abilities to cope with and abilities to do?

It has also been noticed that abilities attributions are not performed through the passive form. More precisely, the modal "can" does not provide an ability reading when constructed with a passive[7]. Thus a sentence like:

10.e John can be stuck in a traffic jam.

Just allows an epistemic reading and not:

10.f * John is able to be stuck in a traffic jam.

In other terms, the possibility to bear something does not come with a corresponding ability. This makes a great difference with physical dispositions (solubility being the disposition to be the patient of a dissolution). It also helps to understand some of our attribution practices.

Take the case of a fragile baby. It was dangerous to give her a bath before, but it is no longer dangerous. One could indifferently says:

18a. She can be given a bath now.
b. She can take / have a bath now.

Yet:

19.a. * She is able to be given a bath
b. * She is able to take / have a bath.

19a. is odd, whereas 19b. is false, and will be true when the girl washes herself.

This raises interesting questions about cases like:

20.a. He is able to stand difficulties.
b. She is able to feel pain.

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[7] As noted in Hackl, this is true for verbal passives, i.e. passives such as the subject is the patient of the action denoted by the verb; in some languages, it is possible to have verbs with a passive form whereas the subject is still the agent of the action, and the ability reading is then available. I defer here to Hackl (1998).

c. She is able to be taught.

That we both accept, despite their passive meaning.

A case like 14a suggests that he is able to do things so that the difficulties do not cause him damages: he is able to cope with them. 14b. seems more difficult. Consider:

20 b. She can feel pain / she is able to feel pain
d. She can suffer a lot from this wound / * she is able to suffer a lot from this wound.

As for 20.c. "She is able to be taught" comes with a "She is able to learn" that may contribute to the active dimension.

Abilities attributions concern exclusively what an agent can do, not what he can afford or stand. They have thus a strong reading, which makes certain "passive ability" talk loose, and suggests that their internal – personal dimension can not be mistaken for an external or situational one.

0A provisory conclusion…

From the previous points, it has been shown that ability statements:

- are made for change-denoting verbs, and not for stative or passive : there are only abilities to bring about a result
- are made under achievement conditions : they are only abilities to *achiev*e the bringing about of a result.
- this ability to achieve is exclusively attributed to the agent, or to something about the agent.

5 …Not bearing on the causal problem?

Does this yet make a difference between the two following sentences?

6b. John is able to lift 100 pounds
7a. This crane is able to lift 100 pounds

Don't both concern the achievement of an action, and the bringing of a result? It would then be proper to credit both John and the crane with some ability, being analogous to a traditional disposition. Yet the statements require quite different analyses.

5.1. Ability and possibility

Consider first their modal value.

6.b. John is able to lift 100 pounds
b'. It is possible for John to achieve the result of lifting 100 pounds.

7.a. This crane is able to lift 100 pounds
a'. It is possible for this crane to achieve the result of lifting 100 pounds.

Two things contribute yet to make a difference between the modal readings 6.b'. and 7.a'.

First, if "possible" is classically taken for a "not necessarily not" we should accept:

6.b''.?? John must not not lift 100 pounds.

Which we do not, whereas we accept:

7. a''. This crane must not not lift 100 pounds.

It is indeed possible that John, while having the ability to lift 100 pounds, and being in the conditions C where 100 pounds are put on his arms, he does not exercise it because he doesn't want to, or doesn't make the effort to. This wouldn't count as showing that "He cannot lift 100 pounds". By contrast, in the conditions C where 100 pounds are put on the platform, if the crane does not lift them, then "the crane cannot lift 100 pounds".

This suggests that abilities come with an intentional clause, such as "if X wants to". We shall come back to this point later, once we have dealt with the second difference. This goes indeed in the same direction.

Considering that 100 pounds is 10 times 10 pounds, if "The crane is able to lift 100 pounds" we also think that it can lift 10 times 10 pounds. This is not the case in John's, who may get tired after 7 lifts of 10 pounds, but still can lift 100 pounds at once. Whereas physical possibilities obey the extensional logic and thus fit in disjunctions, abilities do not.

Let's put it in more general terms. From "it is possible that p" and "p is either A or B", one can infer "it is possible that A or it is possible that B". Yet from "X has the ability to bring about the result F" and "F is A or B", it is not possible to infer " X has the ability to bring about A or X has the ability to bring about B". Take the following example, where Mary has the ability to play darts:

21.a. Mary is able to hit the target
b. Hitting the target is either hitting the bull eye or hitting the round circle
c. Mary is able to hit the bull eye or Mary is able to hit the round circle.

21c. may be true, yet it does yet follow from the possession of the general ability to play dart that one respects 21c.

This is another argument showing that abilities comes with some intensional conditions.

5.2 Abilities and intentions

The previous points show, albeit non exhaustively, that abilities need also to be attributed for intentional actions. This is yet different from saying that they require the actual satisfaction of an intention clause, such as " if X wants".

Indeed, if it is at first valid for: "X is able to swim" (in conditions C limited to circumstances where X wants to swim, he would swim), it is not for "X is able to see / breathe" (?? in conditions C limited to circumstances where X wants to see / breathe, he would see / breathe). Abilities can be attributed for automatic processing, that do require no forming or postulating of a corresponding intention at the personal level. Moreover, the intentional condition so interpreted would just make abilities a specific instance in the purely dispositional schema. It is classically acknowledged that the stimulus-manifestation schema is valid in certain conditions C, and nothing prevents the latter to include intentions. As intentions partake in another domain than abilities, they can be determined independently and can thus constrain the ability schema in a non-trivial way.

5.3 Abilities and the taking of opportunities

The attributions of no intentional abilities are particularly interesting. They go against the idea, previously mentioned, that abilities to do F are supposed to come with the ability not to do F or abstain from F. This was supposed to reflect the intuitive idea that abilities are always conditional on the choice to exert them.

Consider:

22.a. He can / is able to swim if he wants to.
b. * He can / is able to breathe if he wants to.
c. He can also not swim / is able to abstain from swimming (if he wants to)
d. * He can also not breathe / he is able to abstain from breathing (if he wants to)

It seems that it is the absence of an intention condition that blocks the "able not to" clause. The limit is hard to maintain if one does not want to make abilities a case of dispositional must, entirely dependant on the obtaining of some external conditions and stimulus. There must be something that reflects the control of the agent on the ability.

There is nonetheless an intermediate reading, which makes a sentence such 23.a perfectly correct.

23.a. Paul can / is able to breathe but he can not always breathe.

For:

23.b. Paul cannot breathe if he doesn't sit in a straight position.

23.a. suggests that "Paul can breathe", despite being not intentional, is an ability attribution and not a dispositional necessity. What 23.b. reveals is that Paul's ability to breathe is yet conditional on his having the opportunity to breathe.

Austin[8] first introduced the difference between "ability" and "opportunity" readings of "can", while underlining that they often come together. These are indeed relevant for any "can-be able statement".

Consider:

24.a. John can / is able swim when he is at his parent's.

The ability reading is not available. It is no more possible to say that "John is able to speak French in the car " or "I have the ability to swim just when I am at my parent's." Abilities have this is common with dispositions that they are not possessed relatively to a spatio-temporal context. Consider:

25.a. ?? This sugar is soluble / can dissolve in Moscow (but not elsewhere)
b. John can/ is able to swim in Moscow (but not elsewhere).

(This is here enough for our concern; there are more linguistic arguments on the IL aspect of abilitative can, see Hackl, p. 27sq.)

Whereas 25.b. is not possible under an ability reading, it is possible under an opportunity reading, which is quite odd in the case of 25.a. When restricted to a situation, it is possible for abilitative statements to lead to opportunity readings.

The interesting point comes with the fact that an opportunity reading does not imply the ability reading. The opportunity reading of 25.b. is compatible with the affirmation or the denial of a swimming ability to John, as shown in 25.c. Opportunities are thus relative to the kind of action concerned by the ability (there are, for instance, *swimming* opportunities) and to the agent (this is a swimming opportunity *for* John) but can be attributed independently of the actual possession of the ability to him or her.

25.c. There is a situation S which is such as it is an opportunity for John to swim in Moscow but he cannot / is not able to swim (and he will never be).

This make a difference with the ability reading with cannot accommodate the absolute absence of opportunity reading:

21d. He can swim but there is no situation S that is an opportunity for him to do so.

Abilities thus require the possibility to take at least something as an opportunity to achieve an action. This is just on a "having an opportunity" condition more than on a "having the choice" condition that the difference with the disposition is made (see the "must not not" difference). Abilities require a form of agentivity in the taking of

[8] J. L. Austin (1962) « Ifs and Cans » in *Philosophical Papers,* Oxford.

some opportunities. Opportunities can be controlled over without their being the object of a desire or intention; they are objects of a "taking" and not of a propositional attitude.

6 To Conclude

Attributions of abilities are not:

- reflecting some subjective states of the attributer; they really say something of the attributed object. So far for a subjectivism about abilities
- ascribing blind physical dispositions, in a "stimulus-manifestation" way.

They come:

- with standards of what it is to achieve an action (thus the other question as these come with a form of subjectivism)
- not with strong mental intentional clause, that would relate them to other intensional attitudes.

My suggestion is that they require an "opportunity-achievement" analysis, which is not necessarily an "intention-success", nor a "stimulus-response". Detailed studies have then to be pursued to see how they fit between the former and the latter, permeating the border between the rational and the physical domain.

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