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# GATTACA

*Neven Sesardic*

Imagine that you are on an intercontinental flight and that immediately after takeoff the pilot makes the following announcement:

Dear passengers, I hope you will join me in celebrating a wonderful achievement of one of our navigators. His name is Vincent. Vincent's childhood dream was to become an airplane navigator but unfortunately he was declared unfit for the job because of his serious heart condition. True, he does occasionally have symptoms of heart disease, like shortness of breath and chest pain, yet he is certainly not the kind of person to be deterred from pursuing his dream so easily. Being quite convinced that he is up to the task and that everything would be fine Vincent decided to falsify his medical records. And indeed, with the clean bill of health readily forged and attached to his application, he smoothly managed to get the plum job and is very proud to take care of your safety today. Can we please get some applause for Vincent's accomplishment and perseverance in the face of adversity? And, by the way, keep your seat belts tightly fastened during the entire flight.

I somehow doubt that in such a situation you would clap enthusiastically, or that you would vote for Vincent as the airline employee of the month. I bet that, on the contrary, you would be outraged that he used deception and irresponsibly put other people's lives at risk to achieve his selfish goal. But why then do we react so differently when we are confronted with that other Vincent, the main character in the movie *Gattaca* (1997), who basically does the same thing? Why do we admire him? I will try to show that this is all the work of silver screen magic. The remainder of this essay will provide a detailed explanation of how this illusion of heroism has been produced. But just to pique your curiosity, let me just briefly describe the main trick that the Hollywood wizards pulled on us here. They first dramatized things by building into their science-fiction scenario some very strong assumptions about the power of genetic predictions, but later they did everything to suppress the awareness of clear logical implications of these very assumptions.

### A triumph of recklessness?

The film *Gattaca* pictures a bleak future world in which members of the genetic underclass (the so-called invalids) are left with no good life prospects because their bad DNA profiles immediately disqualify them from all desirable careers. Vincent (Ethan Hawke) is one of the invalids. But instead of accepting his second-class status, he decides to fight the system. So he goes on to impersonate Jerome Morrow (Jude Law), a man with a superior genotype who became a paraplegic after a failed suicide attempt. By surreptitiously presenting Jerome's urine, blood, and other biological material as his own, Vincent creates a false genetic identity and in this way succeeds in becoming a navigator in a highly competitive astronaut team that *Gattaca* (the prestigious Aerospace Corporation) is sending on a one-year mission to Saturn's satellite, Titan.

In the last scene, we see Vincent entering the spaceship, apparently his crowning achievement and a triumph. But a triumph of what exactly? The admirable strength and invincibility of human spirit? Or inexcusable recklessness? The second possibility does not loom large on first watching, but it asserts itself later and gains plausibility on reflection.

Everything in the movie turns on the role of scientific knowledge and on the reliability and correctness of those pessimistic predictions that geneticists derive from the invalid people's DNA information. An important thing to notice here is that these predictions can be neither too strong nor too weak, for otherwise the whole point of the story will be destroyed.

On one hand, if predictions are too precise and too strict (e.g., "Vincent will surely suffer a fatal heart attack if he goes through all physical efforts involved in astronaut training"), then the truth of this prediction would simply leave no room for any heroic accomplishment. Interestingly, there is an unfortunate exaggeration in this direction in the movie's opening, when Vincent talks about his birth and says that "only seconds old, the exact time and cause of my death was already known." But of course if such a detailed knowledge had been already available at the time of his birth then it would have been simply foolish of him to engage in long-term life plans conflicting with this inevitable future.

On the other hand, if dire predictions are expressed in terms of vague probabilities (e.g., "Vincent will increase the likelihood of suffering a fatal heart attack if he goes through all physical efforts involved in astronaut training"), this will chip away from the heroism of his decision because now it will start to look as if the challenge was not really so formidable and that taking such a risk was almost part of "life as usual."

Moreover, it becomes very difficult to find an interpretation that will strike the right balance and that will resolve the tension in such a way that the film narrative continues to make sense. The assumption on which the whole plot is based is the advanced knowledge of the science of genetics, with its highly precise and reliable predictions about life, especially those based on people's health limitations. It is against this very background that Vincent's efforts are being gauged and are thought to deserve our admiration. Therefore the statistical estimates issued by genetic experts

have to be true; otherwise, there is simply no story to tell. For if, say, scientists got things terribly wrong with their gene-based anticipations, then it would follow that Vincent was not really facing any internal obstacles, and because of this “lack of resistance” his deeds would cease to be particularly praiseworthy. (Of course, he would still deserve praise for resisting quack science and its arbitrary restrictions, but any relevance for deeper philosophical issues involving genetic engineering, responsibility, and freedom would be destroyed.)

This completes the proof that in analyzing the movie the claims of the futuristic science should be accepted as basically correct. It should be stressed, however, that apart from the above-mentioned infelicitous descent into fatalism (“the exact time and cause of my death was already known”), elsewhere gloomy forecasts are wisely couched in probabilistic terms. And yet, even in such a weakened form, they continue to be at odds with Vincent’s hero status.

### An accidental hero

The DNA test conducted immediately after Vincent’s birth brings the bad news about the high likelihood of several serious disorders. The geneticist who informs the worried parents is clearly most alarmed about the following: “Heart disorder: 99 percent probability. Early fatal potential.”

Even subjectively Vincent has always been acutely aware of his precarious health. For instance, speaking about his childhood relation with his “valid” brother Anton, he says: “By the time we were playing at blood brothers *I understood that there was something very different flowing through my veins*, and I’d need an awful lot more than a drop [of my brother’s blood] if I was going to get anywhere.”

We also see later that even an ordinary and undemanding physical exercise is enough to push Vincent to a dangerous limit. Only twenty minutes of running on a treadmill at a fairly moderate pace made him collapse in the locker room and gasp for air after suffering a frightening cardiac arrhythmia.

So there are at least three different lines of evidence indicating that Vincent’s health did present a serious obstacle to the achievement of his dream: (a) the reliable DNA-based forecast of a highly probable early death from a heart attack *if he lived a normal life* (needless to say, this probability must increase considerably under the extremely harsh conditions of astronaut training); (b) his subjective awareness of his own limitations; and (c) the evidence that just a regular visit to the gym with no extraordinary exertion was sufficient to put him in the vicinity of death.

Now what reason could Vincent offer that would offset these strong grounds for believing that his whole project should not have been undertaken? Indeed, are there any considerations that could justify his decision to disregard so completely all these transparent warning signs? And what if there are actually no such considerations?

In his recent book on ethics in the age of genetic engineering Michael Sandel makes an obvious and well-known point: “The more the athlete relies on drugs or genetic fixes, the less his performance represents his achievement” (Sandel 2007: 26). Yet the same point applies to situations in which the athlete relies not on drugs or

genetic fixes but purely on brute luck, associated with an extremely low probability of success. Here, too, if things turn out well *only* through some weird quirk of improbability, the “success” of the athlete would *not* represent his achievement. Any genuine accomplishment must at least partly be the result of some authentic personal feature of the agent, and this means that it cannot be wholly attributed to fluke chance. (For example, if desperately wishing to produce a wonderful mathematical proof I randomly type on a keyboard, and if against all odds I indeed miraculously manage in this way to churn out a new and amazing mathematical demonstration, I would earn no respect from my mathematical colleagues.)

A truly accidental hero is not a hero.

### How he did it

So why was Vincent not moved in the least by the above three considerations, which all strongly urged him to abandon his venture? Is there anything else that he put forward as his justification for pressing on so persistently? Actually, yes, but strikingly he could muster only one piece of evidence in defense of his behavior: the fact that after a consistent and humiliating series of defeats in a game of “chicken” that he played with his genetically superior brother, he eventually achieved a one-off victory.

They used to swim as far from the shore as they dared, and the point was to see who would get scared and turn back first. As they both expected, Vincent was always the loser – until one afternoon at the beach when, as he recounts, something was very different that day, and “finally the impossible happened.” He won, and it was this event that gave him that badly needed self-confidence and encouraged him to leave home and undertake the hazardous mission: “It was one moment in our lives when my brother was not as strong as he believed, and I was not as weak. *It was the moment that made everything else possible.*”

But could this feat really justify Vincent’s embarking on the project? It all depends, of course, on how the feat was accomplished. If it were caused by what Vincent took to be a reliable perception of his hidden abilities or stamina unrecognized by others, this could indeed constitute a rational basis for his defiance. But this is not at all the account that he offers himself. When toward the end of the movie the brothers play chicken once more and when the again defeated and shocked Anton just cannot understand how Vincent pulled it off, Vincent gives the following explanation: “You want to know how I did it? This is how I did it, Anton: *I never saved anything for the swim back.*”

Well, it is hard to imagine a clearer example of a reckless action. Vincent’s behavior is in fact far more reckless than the notorious game “chickie run” made famous in *Rebel without a Cause* (1955). There, two teenagers simultaneously drive their cars with great speed toward a cliff, and the one who loses his nerve and jumps out of the car first is the loser (the “chicken”). Neither of the two boys wants to die, but the best strategy of winning is to make the other guy believe that you are totally crazy and that you don’t really care whether you will be killed or not. Note that the essential part of

this strategy is *advertising* your indifference to death (regardless of whether it is genuine or not), in the hope that you will convince your opponent of your irrationality and in this way leave him with no other reasonable option but to “chicken out.” If you really want to play with fire and experiment with this kind of strategy, the most stupid thing you could do under the circumstances would be to *hide* your (real or faked) madness. For if you make no effort to reveal your foolhardiness in any way, your rival would be unaware of the dangerousness of the whole situation. Consequently his ignorance of the extreme risk he is facing could easily get both of you killed.

But come to think of it, this is exactly what Vincent did. Competing with Anton and desperately wishing to prevail, he decided to swim as far into the open sea as it took, completely unconcerned about whether either of them would have enough strength to return to the shore – *and without disclosing any of this plan to his brother beforehand!*

### Nothing succeeds like success

Can Vincent perhaps be vindicated by the fact that the swimming episode had a happy ending after all? Similarly, does his success in going through all the hurdles in *Gattaca* ultimately justify his decision to undertake this risky enterprise? Not necessarily.

With this suggestion, that a moral agent could be redeemed by merely being fortunate enough to have his project end up well by pure happenstance, we enter the murky waters of the philosophical literature on moral luck. In an article that started off the whole debate, Bernard Williams makes a highly significant statement for our purposes while discussing a case of a man who had to make a momentous moral decision under the conditions of great uncertainty: “I want to explore and uphold the claim that in such a situation *the only thing that will justify his choice will be success itself*” (Williams 1981: 23; italics added).

This is obviously not an appropriate place to discuss this claim in general, but let me narrow the focus and try to show that it cannot apply to Vincent’s case. There are situations in which the mere outcome of an action does appear to affect our moral evaluation of that action, even if everything else is kept constant. Agent *A* succeeds, while agent *B* fails, and although every relevant consideration appears to be the same in both cases, we nevertheless judge *A* more favorably than *B*. Is there any way to claim coherently and simultaneously (1) that our different moral evaluation of *A*’s and *B*’s actions is justified; (2) that the only visible difference between the two cases is that *A* succeeded and that *B* failed; and (3) that mere success or failure of an action *cannot* be a relevant reason for a moral appraisal of that action?

The three statements do look mutually inconsistent but they are not. What opens the way to their reconciliation is the so-called epistemic solution to the problem of moral luck. Several authors have defended that view, but a particularly elegant exposition is to be found in Rosebury (1995). This approach can help us get a better grip on the *Gattaca* story.

The main point of the epistemic solution is to treat success not as a morally significant feature in its own right but rather as just signaling the presence of another

currently *unknown* feature, which is morally relevant. Typically we judge people's behavior in moral terms, despite having only imperfect knowledge about all relevant aspects. So the fact of success can sometimes be used for making a fallible yet legitimate inference about some of those features that at a given moment lie behind the veil of ignorance. For instance, if an avid but not terribly good golfer manages, astonishingly, to beat Tiger Woods on one occasion, we will probably ascribe a great deal of that upstage to luck, simply because the skill difference between these two players is clearly enormous and manifestly goes against the actual score. Nevertheless, many people will feel that despite the undeniable impact of luck they should now upgrade their initial estimate of the winner's golfing ability, and this solely on the basis of his success. More precisely, the upgrade seems to be motivated by the awareness of two things: first, that very little is known about how exactly this unexpected outcome came about; and second, that such an astonishing event becomes at least slightly less astonishing if the true skill of the unlikely winner is somewhat higher than we thought in the first place. In other words, luck yes, but the praise for the subject is also thrown in for good measure.

### Fanaticism of the will

The epistemic solution works quite well to explain how in situations of imperfect knowledge the mere success of an action can sometimes be a basis for inferring praiseworthy characteristics of the agent, for which there was little prior evidence. But the problem with applying this kind of reasoning to Vincent's case is that we know *too much* about him. Admittedly, our knowledge is still imperfect, but the sheer bulk of information available, especially from his own point of view, leaves little room for finding much commendable about his actions.

Both from Vincent's conversations with his friends (Irene and Jerome) and from his comments on his own past behavior in voice-over we learn a lot about his goals, deliberations, and decision-making. Yet he *never* says anything about why he believes that he will actually be able to overcome the limitations inscribed in his double helix. His words contain much resentment, bitterness, as well as daydreaming about success, but not a single positive reason is ever provided that would ground his consistent optimism. Given that the DNA so ominously casts a dark shadow over his future, it appears that he must be aware of something that counterpoises these really gloomy genetic predictions. But what is it? Is it maybe Vincent's exclusive insight into some of his hidden strengths? Or could it be some specific piece of information assuring him that depressing and otherwise reliable statistical generalizations do not in fact apply to his particular case? Or is it perhaps the reliance on a particular promising strategy that in his opinion gives him a reasonable chance to beat the terrible odds against him? Or what?

The answer is, nothing. The truth is that Vincent is consumed by a powerful and desperate desire to succeed, but at the same time he has absolutely no clue about how he is going to come through. When asked by Jerome how he intends to pull this off, he responds, "I don't know exactly." It seems, to invert the well-known proverb, that

there's a will but there's no way. What is at work here is an uncontrollable and self-destructive will that is not accompanied by a vision of any minimally recognizable path to the goal. We are witnessing the phenomenon that Heinrich Heine in another context called "fanaticism of will, restrained neither by fear nor by self-interest" (Heine 1986: 159).

### Lucking out

The take-home message is that success that just *happens* to a person does not deserve admiration. It has to be *brought about* by that person, at least to a certain extent. We should resist the temptation to infer admirability automatically from mere goal achievement. This kind of attribution error is encouraged by folk wisdom, reflected, for instance, in proverbs like *Audaces fortuna iuvat* ("Fortune favors the bold"). It suggests that courage is somehow associated with lucky outcome, and if this is accepted then, by the symmetry of statistical correlation, a chance success would indeed increase the probability that the subject deserves praise. But of course folk wisdom about such matters should not be trusted, if for no other reason than that it is flatly incoherent. It is easy to find proverbs with an outright contradictory advice, like *Fortuna favet fatuis* ("Fortune favors the foolish") or *Fortuna saepe indignos favet* ("The more knave, the better luck").

Despite all this talk of good fortune and luck it is perhaps time now to deconstruct the illusion of a happy ending in the final scene of the movie. As Vincent enters the spaceship and literally reaches the point of no return, we are flooded by a pleasing feeling of closure and a warm glow of satisfaction and accomplishment. But isn't this slightly premature? After all, this is actually just the beginning of a mission that will last one whole year. And remember, Vincent's worrying genetic predispositions are not magically switched off at this point. He is still the same person, for whom the best science of the day continues to predict a very high probability of a fatal heart attack. In all likelihood he will not return alive from Titan.

What will other crew members think if this happens, especially if they then also learn about all the details of his elaborate web of deception? How will they react when they realize that they lost a navigator on this dangerous and meticulously planned journey in which everyone's contribution is of pivotal importance – and all that just because one seriously ill man thought that he was entitled to use all means possible to realize his childhood dream, cost what it may? Although it is not made clear in the film what employment opportunities (if any) remain open for "invalids," surely even under the worst-case scenario Vincent could have attempted to cheat his way into some other attractive job that would not have put many human lives, including his own, at such high risk.

### Conclusion

After all this dissection and critical comment, the reader will probably think that I do not find *Gattaca* to be a very good movie. But this is not true at all. On the



contrary, I watched it at least five or six times, and on each occasion I was impressed with its subtlety, good dialogue, excellent acting and a very efficient buildup of the plot. Especially gripping is the creation of that chilling and menacing atmosphere of pervasive control and suffocating alienation. Besides, there is this almost palpable sadness in the main character's voice-overs and the accompanying music that emotionally sways the viewer to identify with Vincent entirely and consequently see him as nothing but a hapless victim of genetic discrimination. There is no denying that this is a powerful and masterfully crafted movie.

Yet my point is that a great movie need not necessarily have a fully coherent message or be defensible at a different level of analysis when it is no longer approached as a work of art. Despite all its forcefulness during the two hours of watching, on later reflection the story gives rise to some questions that cannot be resolved in a satisfactory way. Worse still, the more we try to make sense of all the events in the film, the harder it becomes to preserve that feel-good and uplifting attitude that engulfs us in the last minutes while we are watching the credits.

It is certainly gratifying to be told that people can continue to pursue their dreams in the same way, even after they become aware of their serious genetic limitations. But already on a surface level this claim rings false. Probing deeper, and thinking through all the consequences of the imagined advanced scientific knowledge, reveals only further cracks and makes the behavior of the main character less understandable and less admirable. Contrary to what the movie is trying to tell us, a more detached analysis leads us back to the common-sense belief that a more detailed knowledge of our genetic predispositions would indeed severely narrow our choices. Were this kind of information massively available, it would be rational for many people to abandon their previous career plans and reconsider what to do with their lives. Moreover, with such dramatic developments of science the whole way we currently see ourselves would probably undergo a radical change.

There remains an outstanding issue, which cannot be fully addressed in this context but cannot be completely ignored either. It is the relation between artistic and epistemic merit. A reader objected, "Isn't the epistemic foible also an artistic demerit? Wouldn't a basic inconsistency in a movie's thematic structure detract from its merit? Indeed, could there really be a philosophically incoherent masterpiece?"

I might actually concede that there will be an artistic loss connected with this type of logical incongruity. Perhaps it is true that there must be something artistically deficient in any such ineptly concocted story that consists of mutually incompatible fragments that just cannot make sense all together. And yet despite this inevitable artistic loss it is possible that in some cases, even after the "subtraction" of points for defects of logic, enough of aesthetic value will be preserved in the end and that, therefore, the piece will nevertheless qualify as great art. A masterpiece it may not be, but there is no principled reason why such a partially flawed film wouldn't still be regarded as powerful, gripping, and pleasing.

I hope that this defense clears a way for my somewhat odd advice to those who have not yet seen *Gattaca*: by all means rent it and enjoy this beautiful movie, but don't take it too seriously.



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## References

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- Heine, H. (1986) *Religion and Philosophy in Germany: A Fragment*, trans. J. Snodgrass, Albany, NY: State University of New York Press.
- Rosebury, B. (1995) "Moral Responsibility and 'Moral Luck'," *Philosophical Review* 104: 499–524.
- Sandel, M. J. (2007) *The Case Against Perfection: Ethics in the Age of Genetic Engineering*, Cambridge, MA: Belknap Press of Harvard University Press.
- Williams, B. (1981) *Moral Luck: Philosophical Papers 1973–1980*, Cambridge and New York: Cambridge University Press.