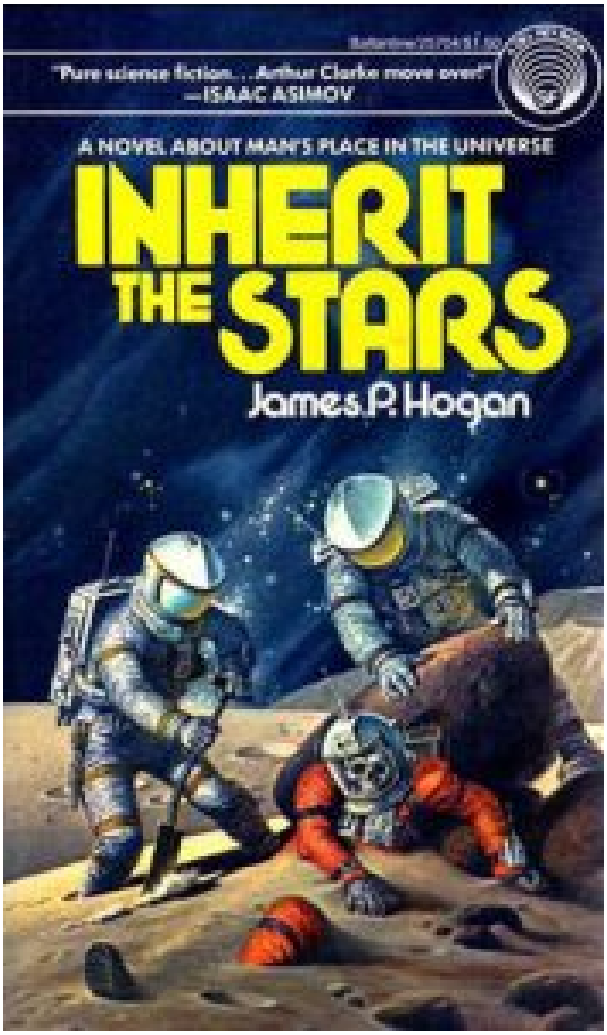
# A Personal Reflection on “Inherit The Stars”

by Andy Thomas (June 2022)

*Cosmic Egg Series No. 1 (Creative Forces)*, Emil Bisttram, 1936

It is often said that you should never judge a book by its cover. I did once, but fortunately things worked out for the best. I was a kid hanging out in a local library in the early 1980s, when a particular book caught my attention.

On the cover of the book I had just pulled from the shelf was a lunar scene in which a spacesuit clad skeleton lay half-buried, while two other figures in spacesuits were busy with the job of its excavation.




And I ask you, what could possibly be more intriguing to a young boy with an appetite for science fiction?

The story line lived up to the intrigue created by the cover, and the body found on the moon turned out to be 50 thousand years old—he had lived long before he could have existed. What a fabulous pretext for a novel!

I took the book home excitedly and was not disappointed.

Although I forgot the name of the book in the years that followed, the fascination it had inspired made a lasting impression. Some years back, during a reflective moment, I

made the decision to seek it out and re-read it.

Now, tracking down such a book without recollection of either its name or author presented somewhat of a challenge for me. I had little more to go on other than the vaguest of internet search terms, such as the “man on the moon”, and “skeleton in a spacesuit.” Eventually, however, I hit upon a scanned image of the original book cover that had so captivated me and, in the process, re-discovered a childhood delight.

The book was called *Inherit the Stars* by James P Hogan.

Written in the late 1970s, but set in the early 21st Century, it was a stunning science fiction achievement, filled with intrigue and excitement while, for the most part, maintaining a high degree of scientific credibility.

I later discovered that soon after the book was first published, Hogan wrote two sequels, *The Gentle Giants of Ganymede*, and *Giants’ Star* to create a trilogy. At a later time, he added to these, and thus his “trilogy” now comprises five books. The sequels were a little more far-fetched in terms of science credibility, but remained just as compelling nevertheless.

Both *Inherit the Stars* and Arthur C. Clarke’s earlier *2001 A Space Odyssey* deal with the prospect that man would one day meet an advanced alien civilisation that was not 100s of years ahead of ours, but millions. Having declared that he could write a better novel than Clarke, Hogan’s motive was to directly challenge *2001 A Space Odyssey* in a way that was less abstract in nature and more engaging at the human level. Arthur C. Clarke’s work is often brilliant in concept, but his characters are typically robotic, being there only to play-out the science.

In particular, I found myself taken aback at just how prophetic Hogan’s portrayal of computing technology in everyday life turned out to be. I was struck, also, at just

how well Hogan managed to weave futuristic concepts into his story that were both credible, yet breathtaking in nature.

Inherit the Stars begins with two men, Victor Hunt and his companion, Rob Gray, taking a suborbital flight from London to the US. Gray carries with him a briefcase computer which he uses from his aircraft seat to check on connecting schedules during the flight. The pair then use what is clearly a laptop to book a rental vehicle for collection upon landing—an operation requiring Grey to provide his credit card details.

But back when the book was written, the dawn of home computing had yet to happen, and typing pools would remain common place in office environments for at least another decade or so.

Not only is the computer carried by Rob Gray familiar as a laptop, it is endowed with a wireless connection to an external global computer network. Hogan later expanded on this a little in the second novel, *The Gentle Giants of Ganymede*, in which he refers to "Earthnet" —a world-wide network of computers, with terminals commonplace in homes and offices.

It is only in the fine detail of computing that differences emerge between what Hogan envisaged for the 21st Century, and what we experience today. In the novel, it was necessary for Gray to place a video call to the rental company to perform the booking. Although video calls are now familiar to anyone who uses Skype or Zoom, we would typically key the necessary information into a web-page today, rather than hold a voice conversation with a company representative.

But perhaps Hogan's predictive powers are not as amazing as they first seem.

In actuality, the Internet has its origins in the 1960s and the term "Internet" was, in fact, coined as far back as 1973. Furthermore, Hogan was better placed than most to make predictions on the future of information technology. As a young man, he received a five-year scholarship at the Royal

Aerospace Establishment in the UK, where he studied electrical, electronic, and mechanical engineering. By the late 1970s, he was running the sales training programme at DEC in Boston, Massachusetts. I suspect that he would have been well aware of cutting-edge developments in IT at that time.

Nevertheless, what I found compelling about the future as envisioned by Hogan was not so much the concepts themselves, but rather the accuracy in which he portrays them in everyday life.

In the time that *Inherit the Stars* is set, commercial space travel to the moon is routine and manned outposts exist as far as Jupiter. It goes without saying that, in this particular area, Hogan's vision has not been borne out by events, at least not yet. However, the technology he describes remains scientifically credible.

But back to the plot. While the 50 thousand year old body on the moon was human, analysis of its spacesuit reveals that the "Lunarians," as they had been christened by Hunt's investigation team, possessed a similarly advanced technology to that of our own but were not of our civilisation. As the investigation progresses, more is learned, and the Lunarian's written language is decoded by the team.

The plot takes an unexpected twist when an alien spacecraft is discovered entombed in ice on the Jovian moon Ganymede. Alien remains and artifacts are recovered from the wreck, and Victor Hunt shifts the focus of his investigation from the moon and the Lunarians, to Ganymede.

It takes Victor Hunt and his team around 6 months to reach Ganymede on board the "Jupiter-5," a large interplanetary vessel propelled by a nuclear-electric engine.

By comparison, it typically takes today's space missions, such as NASA's Cassini Spacecraft, at least 3 years. But Cassini, like most spacecraft to date, relied upon chemical rocket

engines to hurl it toward the outer planets.

Manned missions to Jupiter seem further away now than they did in the 1970s. But in other regards, there have been some exciting developments.

Electrically powered thrusters have, in fact, been in development since the 1950s. It was not until 1998, that one was used for the first time as the primary means of propulsion on a space mission. Deep Space 1 was a NASA mission specifically designed to test experimental technologies, including the electric ion engine. Despite early technical difficulties, it was a stunning success.

Deep Space 1's electric thruster fired for a total of 678 days while the spacecraft journeyed around the inner solar system. However, the amount of power available to drive the thruster was always going to limited by the generating capacity of the craft's solar arrays. Although the ion thruster on board Deep Space 1 could be fired over an extended periods, unlike a convention rocket engine, the amount of thrust it produced was low.

This was not a problem for the ship in Hogan's novel, however, as the Jupiter-5 used a nuclear reactor to generate the electrical energy to drive the propulsion system. Nuclear reactors would be capable of generating much more energy than solar arrays, and indeed, have been the subject of numerous space mission proposals and theoretical studies. In 2003, NASA established Project Prometheus to develop nuclear spacecraft propulsion technology. A demonstrator mission was also considered that would explore the Jovian moons Europa, Ganymede, and Callisto using this technology. NASA, however, discontinued the project in 2010.

Given the technological leap that occurred in spaceflight during the 1950s and 60s, Hogan was not alone among the science fiction authors of his time who assumed that

spaceflight would be prevalent within a few decades. There is, in fact, nothing in Inherit the Stars that stands out as being technically implausible, as far as human spaceflight to the planets is concerned – it just has not happened yet.

But I digress and so, returning to story, it quickly transpires that the alien wreck is old, some 25 million years old in fact, and humanity learns that we were not the first technological species to evolve in this solar system.

I have a fond memory of the first time I read about the Hogan's aliens as a child and was fascinated with the details he wove of the picture of the "Ganymeans," as the humans referred to them in the story.

Although superficially similar to ourselves in form, having a bipedal skeleton, the Ganymeans were not of Earth and otherwise differed from us in every way imaginable. This fitted comfortably with my own visualization of what an alien being might look like, and still does. I particularly loved the part where Victor Hunt and Danchecker, the leading biologist on the mission, considered the merits of possessing two opposable thumbs—namely that the Ganymeans would have been able to tie their shoelaces with one hand!

Unlike the Lunarians, who had been focus in the first part of the book, the Ganymeans possessed a technology far ahead of our own. Hogan introduces us to the prospect that alien computing power will be phenomenal when humans discover what they believe to be an alien computational device on board the wrecked ship—a dense three-dimensional block of silicon circuitry the size of a book, complete with an inbuilt electrostatic cooling system.

Moreover, the Ganymeans were not concerned with nuclear powered ion thrusters when it came to spacecraft propulsion. They had something far better—"Gravitics."

As work to unlock the secrets of the alien wreck continued,

Hunt’s investigation team began to understand that the Ganymeans could generate huge gravitational forces in much the same way as we manipulate electromagnetism. Indeed, we learn that the ship was propelled by means of the projection of a small black hole just ahead of itself, so that acceleration resulted as the ship simply fell into it.

In the immediate sequel, this line of investigation continues with the retrieval of an oil-drum sized device from the alien ship. Believing that it to be an energy storage unit of some kind, human researchers try pumping an electrical current into it, only to wonder why nothing seems to happen. Further afield in the solar system, however, scientific spacecraft begin to detect gravitational anomalies originating from Ganymede.

This is wonderful stuff! But is any of this possible?

Potentially, yes it is.

To date, gravity remains one of the least understood areas of modern physics. Nevertheless, I don’t believe Hogan’s description of alien gravitational devices are rendered implausible by current science.

In the *general theory of relativity*, for example, gravity is not a true fundamental force, but the curvature of space-time. This is at odds with *quantum mechanical theory*, however, in which gravity is described by a field, just like the other fundamental forces.

Theoretical physicists have yet to formulate a consistent theory which combines general relativity and quantum mechanics. Attempts are underway to detect gravitational waves, however, and if successful may help revolutionize our understanding of gravity.

The aliens remain a mystery in *Inherit the Stars* and, at its conclusion, what happened to them is left as an open question. In this book, we never get to find out what it would be like

to meet one, and consequently, a strong sense of “otherness” is maintained about these creatures.

With extraordinarily convenient timing, however, a lost Ganymean starship decides to show up in our solar system after an absence of 25 million years—just in time for the sequel, and the mystery that surrounded them is suddenly lost. Although Hogan makes continued references to how they are utterly unlike us in their thinking and behaviour, I could not help but be a little disappointed when the aliens ceased to be—well—alien.

I guess it was always going to be a difficult task for Hogan to maintain the “otherness” of his creatures, while at the same time, making them engage on a personal level with the human characters in the story. I found it amusing, for example, that the aliens would provide ashtrays for their human guests.

Nevertheless, Hogan attempted something quite bold here. The real-life implications of ever encountering such creatures are staggering.

If we consider that human technology began in earnest with the Industrial Revolution, then for comparison, we can say that our own is 250 years old or thereabouts. What Hogan gave us with the Giant novels was a vision of an alien race with a technological heritage of at least 25 million years, and consequentially, had the ability to wield unimaginable forces.

Over the years, I have often seen it discussed in popular science how we have been announcing our presence to the galaxy with our television and radio signals. No doubt you have read how aliens in nearby star systems may be watching our TV shows from the 1960s. I really don’t think it matters a jot, however.

We have, only recently, developed the technology to begin studying planets around other stars. If there are, indeed,

much older civilisations out there, then through spectral analysis of our planet's atmosphere, it will be widely known throughout our galaxy that there is life on Earth.

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Andy Thomas is a programmer, software author and writer in the north of England. He is interested in the philosophical implications of science, the nature of nature, and the things in life which hold 'value'. You can find him on substack: https://kuiperzone.substack.com.

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