

Preface

Humankind is on the verge of epoch-making changes: as Tsiolkovsky would say, human beings are leaving their cradle, the Earth, to build a spacefaring civilization. We cannot say when humans will return to the Moon, land on Mars or launch the first interstellar spaceship; it may be just a matter of years or of centuries (particularly for the last enterprise), but one thing is certain: our development cannot continue indefinitely on a single, overpopulated and overexploited, planet.

Space is a harsh, dangerous and new environment, and new technologies must be developed to venture across its gulfs. This is however nothing new: Humans have been playing this game since the early Stone Age, when they left the plains of east Africa, the only environment in which they could live without the need to develop increasingly advanced technologies.

The new environments encountered and the new technologies required will, in turn, compel the human species to change, to develop new skills and new behaviours, on top of the basic human background that has characterized us ever since we first appeared on the surface of this planet.

Science-fiction novels are (in practical terms) experiments: the author creates a new environment and puts his characters in it to see how they react to the new challenges, and how they build their lives or succumb to the overwhelming stresses of life. In this novel, the action develops at the frontier of the tiny zone of our galaxy that has been colonized by humankind, where the few people who venture so far from Earth live in artificial habitats—space stations, mining colonies on asteroids and space ships—owing to the lack of naturally inhabitable, or already terraformed, planets.

In this situation, humans come in contact with something alien; not living creatures with whom they could have a relationship of some sort—friendship, understanding, hostility, hate or even just indifference—but machines that have presumably been sown into the galaxy by some intelligent species that intended to use them to explore and colonize its neighbouring stellar systems. This strategy—which had already been proposed by some scientists in the 20th Century—leads to a disaster because of the tendency by these self

replicating machines to undergo evolutionary processes in an almost Darwinian way.

The confrontation with these alien machines causes a disruption to the usual standards of life in the affected zones at the frontier, and the characters have to face a situation that deteriorates progressively. While facing the new dangers and difficulties, they try to understand the limitations of artificial intelligence, a still controversial subject, in an effort to assess whether really intelligent machines might, after all, be possible.

The story is followed by a short appendix, summarizing the scientific and technological facts, theories and hypotheses that are behind the novel. It is subdivided into three sections: space travel, astrobiology, artificial intelligence and robotics. This feature is a characteristic of this new *Science and Fiction* series that has been introduced by Springer.

The section on space travel is the most hypothetical, because it is based on ideas which have, up to now, received no theoretical or experimental confirmation: A way of allowing the characters to overcome the speed-of-light barrier had to be devised and the warp drive approach was chosen. The astrobiological part is consistent with what is today considered most likely, whereas, for artificial intelligence and robotics, the book reflects my strongly sceptical views about strong A.I.

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Giancarlo Genta

The Hunter

A Scientific Novel

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