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Realism, Modernism, and the Future: An Interview with Kim Stanley Robinson

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Ursula K. Heise & Kim Stanley Robinson

REALISM, MODERNISM, AND THE FUTURE:

AN INTERVIEW WITH KIM STANLEY
ROBINSON

*Most current attempts to envision the commons of the future in fiction and film are relentlessly dystopian. From CORMAC MCCARTHY'S *The Road* (2006) to PAOLO BACIGALUPI'S *The Windup Girl* (2009) and from ROLAND EMMERICH'S *The Day After Tomorrow* (2004) to NEILL BLOMKAMP'S *District 9* (2009), speculative fiction and film tend to envision future breakdowns of democratic governance, justice, education, health systems, and civic awareness far more often than societies that are improved over present ones in any but a narrow technological*



*sense. Even MARGARET ATWOOD'S well-known *MaddAddam* trilogy—*Oryx and Crake* (2003), *The Year of the Flood* (2009), and *MaddAddam* (2013)—which ends on a reconciliation between two genetically different human species and a biologically evolved pig species with human-like intelligence, can only envision such a peaceful future after global genocide, pervasive violence, and the breakdown of*

civil society. In this vast field of dystopian imaginings, the work of KIM STANLEY ROBINSON stands out for its steadfast commitment to utopian possibilities, or, as he likes to call them referencing JOANNA RUSS, “optopian” visions that seek out the best rather than the worst scenarios, given particular historical conditions.

After completing, in the 1980s, a doctorate in English under the direction of Fredric Jameson and concerning the novels of Philip K. Dick, Robinson went on to write numerous science fiction novels and short stories of his own. His *Three Californias* trilogy of *The Wild Shore* (1984), *The Gold Coast* (1988), and *Pacific Edge* (1990) juxtaposes three different visions of California’s future: the neo-primitivist aftermath of a nuclear war, capitalist business-as-usual, and an embattled ecotopia. The *Science in the Capital* trilogy—*Forty Signs of Rain* (2004), *Fifty Degrees Below* (2005), and *Sixty Days and Counting* (2007)—portrays the world-wide consequences of climate change as well as the struggles that accompany the translation of science into meaningful public policy—struggles that in this set of novels end on a moderately hopeful vision of progressive politics in Washington. But Robinson is best known for *Red Mars* (1992), *Green Mars* (1994), and *Blue Mars* (1996), a trilogy that traces the terraforming of Mars and the development of a multicultural, conflictive, and ambiguously utopian society on the Red Planet, even as Earth remains prone to military conflict, corporate exploitation, and ecological degradation. To what extent can and should Earth provide the templates for how to design a biosphere and organize the social sphere in a brand-new society? In what way might models developed on Mars be applied back to Earth’s histories and conflicts? In playing Martian and Terran societies against each other, the Mars Trilogy develops an extraordinarily complex and nuanced engagement with current ecological, economic, and social crises.

The Mars Trilogy not only traces a detailed outline of the ecological and eco-political challenges of terraforming that obliquely reflects on current debates about environmental politics on Earth; it also seeks to portray the social, cultural, and political turmoil and compromises that arise in the colonization of another planet not so much by humans understood as a homogeneous group, but by Americans, Arabs, Japanese, Russians, Swiss and many other groups that bring

very different histories and traditions of how to organize society to bear on the emergent Martian communities. The novel *2312* (2012) expands the scenario of the Mars Trilogy to the solar system, and *Aurora* (2015) even to other star systems. But in *Aurora*, the biological, chemical, and physical challenges of multi-generational travel ultimately overwhelm the ambition to colonize other planets, and they force a return to the home planet and a more limited project of ecological restoration that ultimately foregrounds the conceptual difficulties in any detachment of human histories from the planet on which the species has evolved.

Robinson's imaginations of the future focus above all on two dimensions: the future of nature and the future of the socio-economic order. While his utopias are always dynamic, embattled, and heterogeneous, they seek to outline what an economic organization beyond capitalism might look like, and how natural ecosystems might be inhabited sustainably for the next few hundred years. Marxist-influenced critiques of capitalism play a crucial role in these scenarios, as does science. Not only do recent findings of social and natural science inform Robinson's narratives, but the scientific community at its best functions as a microcosmos of an alternative and improved society in its search for better understanding, its sharing of insights, and its openness to critique and revision. Scientific research, publication, and validation or refutation, in other words, provide a model of how a successful commons might work.

Science also provides a resource as well as some challenges for speculative narrative, as is shown in the following conversation, conducted at the University of California, Los Angeles, on June 1, 2015. Scientific accuracy makes for a certain kind of literary realism, but it can also prove challenging for narrative in a genre such as science fiction, which is often sought out by its readers for its emphasis on action rather than description or reflection. Portrayals of social decision-making and political wrangles, while they may be decisive for the well-being of a community—whether it be a village, a spaceship, or a planet—do not always make for compelling novelistic material. How does a realistic and nuanced approach to social and political questions become narratively suspenseful? How does speculative fiction combine scientific facts with human histories that we do not and cannot know—those of the future as well as those of the distant past? How can contemporary novels integrate both realist strategies as they are known from nineteenth-century fiction and high-modernist strategies developed primarily by urban novelists to portray the workings of modern cities

and nations—while also capturing individual characters' interiorities? In engaging with these questions in over a dozen novels and numerous short stories, Robinson shows the difficulties but also the promises in continuing to develop utopian visions of future commons.

— Ursula K. Heise, UCLA

UH/ *One of most striking aspects of your fiction is its sustained realism. The symbolism, self-reference, multiple meanings, and ambiguity that literary critics love so much in a great deal of modernist and postmodernist literature isn't distinctive of your work. What is realism for you, since that is itself a really complex term? Why is realism so important a mode in your fiction?*

KSR/ Realism is a moment, in literature in particular, that is arguably not any more realistic than any other mode. I come at it through Fredric Jameson, as I do so many things, and his great book, *The Antinomies of Realism*, points out that it's an unstable balance between older récits, straightforward tales so to speak, and the later modernisms with their floating subjects, and emotions that haven't been named as emotions yet, affects that appear in a kind of eternal present that sometimes gets called "stream of consciousness." So for me, this definition speaks to formal matters, being translated, in my working terms, to the difference between summarization and dramatization, and realism is that moment when the two of them are in an unstable balance.

But this is going straight to form when there are also questions of content involved. If

you're doing science fiction, you already are no longer a realist as conceived in the modernist period, because you're not writing about your own time and place. You can choose to write as a pre-modernist for reasons of your own, and it is just as valid as any other aesthetic choice that you make. High modernism had written itself into a corner and had no way to do something any better or more interesting than the work of the high modernists of the 1930s and 1940s. So in the 1950s and 1960s, high modernism was falling apart and chasing its own tail, in ways that John Barth illustrated perfectly. They talked a lot in that period about the exhaustion of literature, or the literature of exhaustion—especially the people being paid attention to as avant-garde who were also academics, like John Barth, John Gardner, or Nabokov. There were no more stories to tell in the high modernist style that didn't reiterate all the now-standard ambiguities and linguistic tricks.

Then *One Hundred Years of Solitude* appeared in English, and all that angst got blasted aside. García Márquez was for me profoundly important, because the pretense in *One Hundred Years of Solitude* is that someone like Úrsula, the old grandmother, says with a completely straight face and no irony whatso-

ever, “Remedios the Beauty flew up to heaven while she was doing laundry.” The important thing, stylistically, for García Márquez was to speak with a straight face: to have a novel that could be understood by every person in Latin America, including workers untrained in literature, while people doing professional literary analysis could also dive into *One Hundred Years of Solitude* and begin to see that it isn’t anywhere nearly as simple as it looked on that first reading. I have studied that book, and it’s amazing how subtle and sophisticated its narrative technique is. Although many people imitated magical realism as content, it was the formal project that García Márquez showed could be successful that I wanted: I don’t want to write literature that can only be understood by English professors who then serve as priests to a congregation. I want to be clear, so García Márquez’s supposedly plain style sent me in the direction of a kind of pretend pre-modernism, which can look like realism.

And science fiction itself can always be my modernist touch, as it constitutes a kind of symbolist poetry. The symbols in science fiction are called “Mars,” or “rockets,” and they’re symbols as much as they are anything else. “A.I.s” are a great current symbol for science itself. So science fiction seems to me to have everything you could want in literature, including clarity for the reader who reads novels and yet isn’t a professional literary person. I crave that audience, and when I get read by lab techs, or when I see a shattered old copy of *Red Mars* on the dashboard of a construction worker’s truck, these are the great moments

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I don’t want to write literature that can only be understood by English professors who then serve as priests to a congregation.

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for me. That being the case, I try to be careful about style, but it comes down to precision, musicality, rhythm, and it’s rather unobtrusive, and it doesn’t have to do with the usual tricks of the high modernists. Although I like to try those, too.

UH/ 2312 marked, to me, a real departure in that it does integrate so many elements of the high modernist urban novel and of high modernist poetry into the texture of a science fiction novel, even though it keeps the clarity of the Mars Trilogy. What prompted you to integrate these more experimental strategies?

KSR/ It’s a case of form following function. I wanted to show the whole solar system but keep it compact, and I came across Dos Passos’s *USA* trilogy. He invented a method to describe all of American culture in the 1920s and 1930s by way of an articulated methodology he invented for that trilogy. The various strands consisted of different kinds of forms that alternated. The result is beautiful. It’s symphonic in structure, and within it you can play with different styles when you have different purposes. So I lifted the *USA* trilo-

gy's method, and translated it into the future and into space. This had been done before by John Brunner in *Stand on Zanzibar*, and it worked very well for him too.

UH/ *And David Brin in Earth, who, I think, lifted it from John Brunner.*

KSR/ Exactly. I talked with David about this, and he didn't know the *USA* trilogy.

UH/ *But did he know John Brunner?*

KSR/ He knew Brunner. We all did. In fact, both David and I have written introductions to *Stand on Zanzibar* for special editions. And that book is in the canon, as one of the great descriptions of what the future felt like around the year 1968. It's an amazing accomplishment for Brunner to have intuited so many things that really did come true, as well as things that didn't. But he got his method from Dos Passos. The styles in *USA* are relatively clear on the sentence level. In fact, Sartre says this is the great American novel, partly because none of the characters have interior lives—an interesting comment, he felt. If you're brutalized by industrial civilization, you create people who are perhaps post-bourgeois, and they're banging like pinballs around America without any interiority. That is the Dos Passos addition to the great modernisms. While Faulkner is all about interiority, Dos Passos is much more like Hemingway, in that he tries to stay on the outside of characters and imply what the insides are like. I think the *USA* trilogy is a masterpiece, one of the great American novels,

unjustly neglected in the academic canon as it now exists for American twentieth-century literature, and I trust it will come back into its own as time passes. In any case, it's a hugely helpful form if you're trying to do a whole culture, more than the interior lives of individual characters.

UH/ *I would actually expand that from Dos Passos to Joyce's method in Ulysses, Woolf's in Mrs. Dalloway, or Döblin's in Berlin Alexanderplatz. It seems to me interesting how, at that moment, a certain formal framework was invented by writers who were interested in capturing the heterogeneity, but also the unity of life in the modernist metropolis—or in the USA trilogy, of the modern nation. The experience of the modern metropolis and the formal challenge of capturing that experience at the root of so many of the high modernist fictional innovations gets resurrected, forty years later in science fiction, as a way of talking about the planet as a whole.*

Another really interesting element about science fiction is the epic. In Joyce, you have Ulysses's story as a way of tying things together, and in some modernist novels, you see a resurrection of that pre-novelistic mode of narration, epic, as a way of talking about the whole. One way of thinking about science fiction is as the continuation of the epic tradition in the age of the novel, and a big part of science fiction has always been to talk about the planet as a whole. So the interesting challenge is to show that the planet is one, but

also that it's very different depending on where you sit and where you are.

KSR/ Right, I think that's all very true, and you could add Ford Madox Ford with *Parade's End*. All these writers are playing off each other, but I'm wondering if they're also playing off of Picasso and cubism. All works of modernist art reflect each other in this idea of the shattering of the urban subject, so that it's no longer like the nineteenth-century novel, where you could reduce the *Bildungsroman* to a single character and it would show you the whole culture. You need to break up the feel of things, and you need to show more people. So you have two requirements at once that can match each other.

And also it's true what you say about the planet—if it's a global village, it's not really a village, it's more like [Isaac Asimov's] Trantor. It's a global city. It's heavily urbanized. I like the phrase "global village," but it's not accurate to how most of us are living. We're in a global city where when you're in the middle of New York—although there will be differences in feel between, say, New York and Hong Kong and the other great cities—but you still are going to be in a landscape that is relatively recognizable. How do you express that in a single narrative? So, yes, we keep coming back to these braided or stranded narratives; you don't want them too shattered because there is a sort of flow, and there's also plot. And this is going back to epic, the idea that there's a story, there are some characters that you need to follow like a thread through

the maze. So you need to portray the maze, but you also have to thread the maze with a story that people are following page to page.

The poet Frederick Turner, who is also a professor of literature down at the University of Texas at Dallas, wrote two great science fiction epic poems. *Genesis* is about the terraforming of Mars, and *The New World* is about a post-apocalyptic Ohio. These are great epic poems. He's a wonderful poet, but he likes narrative poetry, so he also is pre-modernist in his poetic form, and he's as good as any poet alive. Writing an epic poem in the late twentieth century is a very odd, sort of postmodern, act, because it's like dealing in a dead form. But he's pulled it off. And since then he's published a book on the epic as a genre that did not completely die but has mutated into various modern forms, not just his but those of others.

UH/ *James Merrill is the other writer that comes to mind.*

KSR/ That's right, and Merrill needed his Ouija board. But Turner's super-interesting on the epic and the way science fiction does manage to draw back into the modern context some of the things that people still love about the epic.

UH/ *Dos Passos is more extreme, I think, than the other modern urban novelists, in that he really pushes toward having novels without protagonists. In Döblin, Joyce, or Woolf, you still have clear characters that you can follow*

and empathize with, and whose storylines are emphasized over that of other characters, whereas in Dos Passos, you don't really know which character among many you're supposed to invest in most as a reader. That's very hard to pull off!

KSR/ And it's so dangerous that he himself pulls back. Once you read *USA* a second time, what you see is that there are perhaps five or six privileged characters that are like pinballs that keep coming back into the game. At the end of the novel, they actually kind of coalesce at the bottom, so to speak, and the plot braids them in a quite sweet way. So at the end, you see that aspects of the standard novel come through. It resembles in some way the big triple-deckers, the way a Dickens novel is a little bit crazy in the way everyone connects at the end. "Protagonicity" is a word I found in *The One vs. the Many* by Alex Woloch—a great book for novelists to read, because minor characters are so important.¹ They were in the nineteenth century, and they are in science fiction. If you want to get at the broader perspective that science fiction often aims at, concentrating deeply on any single individual can be a mistake. You often need to find ways to write a novel that doesn't have high protagonicity. It's a big problem, because readers want what they want, and as a writer, you know what you want, too, and you don't quite want to lose the thread. You do want protagonists.

UH/ *You definitely lose a certain kind of reading pleasure when there are no protagonists.*

You don't get that pleasure with some of Dos Passos's novels, but there's a reason for it just as in Brecht, who wants you to snap out of your empathy with the characters. So there are precedents for doing without protagonicity, but it certainly does make for somewhat harder reading.

KSR/ And less warm feelings. The alienation is cognitive and intellectual, and you're thinking, "Well, I'm reading this, and it's interesting," but are you moved? You want to be—maybe in a Brecht play you don't need to be—but in reading a novel, if you aren't moved, you're reading a history book or a sociological text. People say Dos Passos is like that, and I think there's a little bit of truth there. He doesn't want you to feel warm towards any one of those characters, that's for sure.

UH/ *Most of your work deals with the future, but some of your worlds are set in the past. One of your recent novels, *Shaman*, is a realist Bildungsroman about a young guy growing up in the Paleolithic. Is science fiction different from other kinds of realist literature in that it's about the future?*

KSR/ The way you distinguish science fiction from fantasy is that it's a historical literature. A science fiction novel will be placed in a future of ours, and you can run a track from this moment to that moment that's a history. It's either explicit in the text or it's implicit, and you have to play a game of figuring out what happened to get from here to there. So science fiction properly conceived—which

is really just my own way of conceiving it, of course—is a historical literature. That’s why alternative history is put in the science fiction section. It too is historical, and so in the end, I think that science fiction is always portraying the histories that we can never know. We can never know the future – that’s obvious and the main body of science fiction. You can never know an alternative history, like “What if the Nazis won World War II?” And you can never know pre-history, precisely because it’s pre-historical—there were no texts. We know human beings painted the Chauvet Cave (which is what I wrote about in *Shaman*) 32,000 years ago, because of archaeology. So in more ways than one, it’s a science fiction, because it’s the sciences that tell us what might have happened back then.

UH/ *If you were to point to the issues you’re most concerned with in your current writing, what would they be, and why is the history we don’t know more important to these issues than the history we do know?*

KSR/ Say I’m a realist, and I want to write about right now, 2015. If I were to write that novel, finish it, and get it published, it would get published three years later: already it’s become like a historical novel. You’ve got to shoot ahead of the target: if you want to write about right now, you write about the year 2040. All the issues will be in play, and you can begin to tweak them.

Between 2004 and 2007, I wrote a series of novels set in Washington, D.C., describing a

near future in which abrupt climate change struck. There were really cold winters on the east coast, and drought in California, and it is all looking pretty spookily accurate now. But if you read those books now, they’re a really strange combination of things I got wrong and things I got right, so they become like instant historical novels. That’s how I think it works these days. If you write science fiction, you’re doing a bizarre form of realism that is about right now and how it feels. Literature’s always about how it feels. It’s not a science or social science. It’s a question of trying to properly evoke and reflect certain emotions.

UH/ *Another part of the realist matrix of science fiction is the integration of scientific information into the flow of the narrative. As a reader, if you’re not an inveterate geek or nerd, your eyes sometimes glaze over in science fiction novels when you get all the details of a certain type of rocket propulsion or a certain kind of genetic manipulation, and you just start leafing through the pages and looking for the point where the narrative kicks back in. So how do you narrate science responsibly, but in such a way that it doesn’t become a boring interruption to the narrative flow?*

KSR/ There’s a lot of craft involved in that. It’s a huge challenge for me, and I think for a lot of science fiction writers. You have to resist the standard style sheet from realism and high modernism that has also drifted into science fiction, that if you want to write respectably, it’d be a mistake to stop and talk for a couple pages about something that’s purely scien-

tific. You have to resist that kind of aesthetic judgment. You have to trust in the scientific parts of your narrative as being worthwhile in themselves, and partly that's trusting that there are things that are interesting that are not human beings and their activities. That other things in the universe are as interesting as we are—and the novel can write about anything that's interesting—as long as it's interesting. So I always say the attacks on the expository lump, also called the “info dump,” are stupid. They pretend to know how literature works, and they become workshop craft tips: don't do expository lumps, slip it in under the door, make sure that there's only three or four phrases of science before you go on to something else and make people put it together like a jigsaw puzzle with separated pieces. That's a terrible restriction, and needs to be ignored on a regular basis.

Once you do think about exposition as something that is different from human plots, and can be beautiful, like prose poetry, you need to acknowledge that if in fact you're making it all up, you probably should keep it brief. Only a certain number of sentences can say, “We connected the snark to the overdrive,” and then—Vonnegut's so good at that!—the “chrono-synclastic infundibulum” makes you go to the other side of the universe in two seconds.

In my case, the break came for me with the Mars Trilogy. We had just been given a stupendous amount of data about the real Mars that we hadn't had before, even ten years

before, because it was all Viking data—a little bit of Mariner, but mostly Viking. Well, that is interesting. There's a planet sitting over there, a landscape, so you can do landscape writing, you can do nature writing, and you can actually talk about things like, why is the Tharsis Bulge there? Why is the northern hemisphere literally four kilometers lower in altitude on average than the southern hemisphere? What does it mean? Was there a spectacularly huge hit on the north pole and the whole northern hemisphere is in effect a gigantic meteor crater? Well, yes! Amazing! And why is the Tharsis Bulge hugely bigger than the Himalayas? All you had to do in novelistic terms was postulate a narrator who was interested in that stuff. The narrator of the Mars Trilogy is not the same as me, the narrator is some kind of encyclopedic know-it-all who wants to tell you everything about Mars because you never heard of it before. Then also there are characters who are not only discovering the place in person, but arguing over it. What does it mean, and what should we do with it? At that point, you need detailed exposition before you can get to a rational discussion. So I had real information that had never been in literature before, and I put it to use.

And this happens a lot. Very often the sciences give us real information that is simply new. What do we do with the knowledge that Descartes was wrong, for instance, and that the entire Western tradition of divorcing reason and emotion turns out to be a completely mistaken view of how the brain works? Got to write a novel about that, got to get into some

detail about it. Because I think of the novel as the place where everything gets ground up into a new story. A story that is interesting has to have some real content, not just rehash the old plots and the old knowledge; and there again realism comes in, where you're not just making it up. This is why I'm not a fantasy writer.

UH/ *Let me ask you about that same nexus between style, technology, and science in terms of the obsessions of characters in your novels. I've always loved the passages in the Mars Trilogy where Arkady Bogdanov upbraids the people who have started to build the settlement on Mars, saying that it's functional but unnecessarily ugly. So he's not just interested in merging technology and ecology but very invested in the beauty of the end product. In 2312, the Mercurian land-artists redo the landscape around Terminator as a way of creating beauty that might not be there in just looking at the landscape as such, and you often refer to the work of Andy Goldsworthy in this context. What is the importance of that aesthetic drive? Why isn't the most important task finding ways of combining our technology with ecology in ways that benefit humans and nonhumans?*

KSR/ That's interesting. I think probably it's more important that agriculture and urban design match the ecology and become sustainable. I wonder if that in itself might not end up being beautiful. And if it didn't, that would be an interesting problem to face. Maybe aesthetics is just an extra or surplus, or having

something to do with our perception. It goes back to the question of whether aesthetics is social, biological, or just what Stephen Jay Gould called a spandrel, an accident of engineering that isn't really important but still looks good. I don't think it's easy to sort that out.

I am interested in design, and I like looking at beautiful spaces. It starts with a sense of natural spaces that seem beautiful by accident, or living things that are well-integrated into a landscape and look neat, and I mean, meticulously neat. Take McMurdo Station: a bunch of scientists go down to Antarctica and they throw in buildings higgledy-piggledy, without any regard for how they're going to look in the end, because the scientists don't care and it isn't important. So you get this very ugly thing. But what you see, say, in the villages of Greenland is a kind of vernacular architecture. People have to live season-in and season-out through long winters where there isn't much to look at, and there's a bit of sensory deprivation. So you make it beautiful, you paint it in primary colors, you make it so that it's like Mediterranean architecture in the Mediterranean—it looks quite beautiful and it fits its place. It's probably functional—the buildings are really close together with walkways, so you don't have to go outdoors when it's freezing. Do you have a sense of style or not when you begin to do the design? I don't know if it's functional, but I do think when you're going to live in it forever after, maybe it does matter. When you're in a beautiful space, you won't trash it. You'll take care of it the

way that you need to take care of the ecology. So it might be that beauty is important in that environmentalist sense.

UH/ The reason that I'm interested in this question is that in environmental circles there's often a presumption that what's natural is beautiful, and the more you can restore it to what's natural, the more it will be beautiful. I don't think that's necessarily true. When you go out to the Santa Monica Mountains near Los Angeles after a four-year drought, there is a certain beauty in the vegetation there, but you have to look very closely, and it certainly isn't everybody's sense of a beautiful landscape. So if you plant a native garden in L.A., it's not necessarily going to correspond to something people will recognize as beautiful. At the same time, buildings that are really beautiful aren't necessarily ecologically functional. I'm a great admirer of Frank Gehry's buildings, but I wish they were more ecologically functional for other species, with more nooks and crannies that birds and bats and bugs could find a home in, as well as us. In terms of urban design and architecture, the beautiful isn't always best for nature.

KSR/ Architecture has such a long way to go because of Le Corbusier's moment of austere design. Supposedly it was form following function, but the function misunderstood human beings and separated them from nature. And yet it generated a gigantic, multi-generational effort to build all this architecture that looks the same everywhere, that isn't ecologically sustainable, that doesn't help other life forms, and humans are trapped in it. So architecture

has a long way to walk back, and it is still in the process of finding out what would be a good design for now.

UH/ One of the things I found really interesting in 2312 is the way in which urban space is described from the perspective of nonhumans. Swan Er Hong, the person from Mercury, travels to Manhattan—for most of us, one of the most artificial and human-made environments that there is. And its futuristic, Venetian version with canals instead of streets is even more surrealist in some ways. But to her, it's the most natural space she's ever been in. A lovely twist! Something similar happens with the quban, the artificial human, later, who walks through the city and doesn't see it as the antithesis of nature. For him—or it—there's no distinction between details of nature and technology. It perceives birds and flowers along with artificial materials and technology. I think that resonates with what a lot of architects and urban planners are now trying to do – to take another look at the urban as a space that already is natural in more profound ways than we've acknowledged, but that also can be made to accommodate more nature more explicitly.

KSR/ For me, one of the great discoveries in 2312 was Swan coming to New York. Because she'd always been trapped in rooms, and had made gardens and greenhouses inside buildings. But getting out on the surface of this planet is simply a mind-boggling experience because we were made for it, so that was a stupendous experience of writing. And any

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big city has its nearby swamps or wetlands, because there are so many cities on our coast and these wetlands are incredibly rich, biologically. So I had a lot of fun with that scene! Having spent a night completely disrupted to the point of utter sleeplessness by frogs, I thought: I'm going to have to write that down.

UH/ *Is that something you're following up in your current project on Manhattan?*

KSR/ Yes, I think it's worth developing more, because we could make cities so livable. We could grow some food there and grow some energy there, and have less of an impact on the surrounding countryside, because of possibilities of sustainable permaculture technologies. I'm trying to make this project a chance to go further than ever before in that regard. Drowning New York sounds at first like a disaster, and there certainly would be some desperate decades, but once people recover the space, it will be a more lively biological zone than ever, including an intertidal zone, and a shallow water zone. I want to play with all that and try to suggest that we can cope,

and that a smart tech, which means smart laws and post-capitalism, could actually do tremendous things on this planet. We're getting really powerful. Not all-powerful—but we are getting powerful enough that we could create quite a beautiful civilization. And it's not just us: a beautiful civilization means all the mammals are doing well, all the birds are doing well, we coexist with the whole biosphere. That would be quite an accomplishment. And it would be beautiful. However we manage that, it would be quite beautiful.

UH/ *What's been particularly striking about science fiction in the last two decades is not just how much of it there is—every other Hollywood movie seems to be based on a science fiction premise—but how much it's expanded beyond its conventional genre boundaries. Writers who are not per se science fiction writers have adopted the genre: Kazuo Ishiguro, Chang-rae Lee. Or the French novelist Michel Houellebecq, who is a social satirist, and yet many of his novels have a science fiction framework. Countries that were not known for having a really huge sci-fi reading audience,*

like Germany or Brazil, have seen interest in the genre grow. Why do you think science fiction is expanding in this way?

KSR/ The world's becoming a big science fiction novel that we're all co-writing together. In many ways, if you want to do realism that's truly realistic right now, you're driven to science fiction. You've got a very rapidly changing culture where the future seems to impinge on the present more than ever before. So scenario-building and talking about various futures that might come to pass becomes both interesting and useful at the same time. That's why you see all of the people taking on science fiction who never would have thought of it before. And sometimes they're terrible at it, and sometimes they're quite marvelous at it. Because you can write in the style that the genre was written in fifty years earlier, and reinvent the wheel in a bad way, or you can come in at an individual angle, marginal to the genre's standard effects and tropes, and actually do something quite new and interesting. You see both in writers coming to the genre from somewhere else, sometimes mixed in the same texts. I like to see it because the genre itself can be a homogenizing factor that needs new visions.

UH/ *You said that you think that the future impinges more on the present now than it did in the past. In what sense is that true? In terms of physical and social processes that are happening, or in terms of how we look at the future?*

KSR/ Every moment in human history has probably felt unprecedented, with a set of

problems and a futurity bearing down on it that seemed new and awkward. What I'm trying to say about now is that the situation is *more* unprecedented than ever before because we're moving into climate change, and because we have enormous physical powers that are nevertheless incapable of saving us from enormous problems that we ourselves are creating. So it is a strange moment in human history.

This is already artificial intelligence: it takes the massed study of huge numbers of scientists to let us know for sure that we're changing the climate in ways that are inevitable, and now it's just a matter of how much we're going to change it. That being the case, the future is a kind of presence—"the shadow of the future," Shelley once called it—now cast on us. We're deeper into it, and it's darker. We have a trajectory of history where things seem to be moving faster, and the problems are bigger. We need to solve them or else we can see a crash coming. In a global sense, I don't think a civilization has ever seen a crash coming, except maybe in between the two World Wars. In the 1930s, everybody could see that the second half of the great war was coming, and there was a sense of desperation and doom. I think this is a good analogy, because now there's a sense of doom that's more climactic, and politicians are involved, civilization is involved, and perhaps we can avoid the worst catastrophes.

UH/ *The other analogy that occurs to me is the 1960s. I remember growing up in Germany in the 1960s and 1970s, when there was a very strong expectation on everybody's part that*

nuclear war would happen, and that it would probably start in Germany, because we were divided between East and West. So I wonder whether successive generations each have their own end-of-the-world visions.

KSR/ The difference for me is that in the 1960s and 1970s the feeling was one of historical derangement, the feeling that anything could happen: so much was unprecedented and new and weird. It wasn't clear that global capitalism would win. It looked like maybe socialism might win. Maybe with the liberation of all the colonial empires at once, postcolonial empires might become something entirely different. Although there was the nuclear danger, it seemed to be so dangerous that the longer it went on, the more people began to think, "We're not that crazy. Because this would kill every person on the planet, it's not going to happen at all." But with climate change, we're on a trajectory that might go higher or a bit lower, but we're not going to be able to reverse it except over the course of centuries.

UH/ *It certainly is a different, slow-motion kind of catastrophe, and also one that's beset with a lot more uncertainties than nuclear war in terms of what the local impacts are going to be.*

KSR/ But more certain to happen. It's going to happen at some level, which is strange. With the nuclear war, ultimately you kept thinking, it's not going to happen, because it's too crazy.

UH/ *Speaking of dark futures, a lot of speculative fiction in print and film these days*

is starkly dystopian. Has a lot of speculative fiction always been dystopian, or has this trend become more pronounced? Why is it so popular?

KSR/ I think people are expressing a sense that their future has been stolen. I think of science fiction as profoundly technologically optimistic in the 1930s and 1940s among the white young men who were in engineering classes and getting *Astounding Magazine* every month in the mail and thinking, "Know what? I'm on the farm here like Jack Williamson, but when I'm an adult, I'm going to be living on Alpha Centauri." That was a feeling of hope and a feeling of excitement, that the changes that were going to be made would be positive. Now, science fiction is never good at predicting the future, but it is always really good at expressing the present's feeling of future possibilities. And that's a really important distinction to make, because why read old science fiction, except now as a way to read historically? What did the future feel like to people in 1935? Read Clifford Simak, *Cosmic Engineers*. Or Jack Williamson.

UH/ *Who invented the term "terraforming."*

KSR/ Yes, exactly. We were going to change planets and live on them, it was going to be easy as pie. Or at least it would be within our power; it was engineering still. It wasn't magic. Now, take *The Hunger Games* as a rather beautiful metaphor, simple but powerful, of young people feeling like their futures have been stolen: their lives are destroyed fighting against

each other, and this is a spectator sport for an elite that is completely decadent. This is a feeling that is very powerful, widespread, and appropriate, I would argue. You can say that the dystopian fiction of our time is too easy, or that it doesn't include hope, or that it gets repetitive. Or that it shows a certain kind of *schadenfreude*, where you're saying to yourself, if the future is so bad, at least I'm not that bad off now. There are many things going on at once.

According to Jameson and Greimas's rectangle, there's utopia and dystopia, but also anti-utopia, which means the idea that even trying for utopia is going to be a disaster. In the dystopia, like *1984*, they're out to get you—a regime of criminals who want to make life bad. But in *Brave New World* or the other anti-utopias, even a culture that tries to do good and make things better will inevitably make something worse.

And then you have to call the fourth position “anti-anti-utopia,” where you begin to argue for utopian possibilities because you don't like either dystopia or anti-utopia. So even if you don't believe in utopia, you end up writing anti-anti-utopias. I find this very clarifying, because I am a utopian science fiction writer, but it's more complicated than just saying you could make a perfect society. I used to call it the “optopia,” a Joanna Russ term meaning the “best that you can get given the situation you're in now.” I like that one very much.

UH/ *You have just published a new novel, Aurora. You've been quite emphatic in*

the past that humans won't be able, for technological reasons, to go beyond the solar system. In this novel, they do, but then they return. Why?

KSR/ It's a thought experiment. Having said that for so long, I had to think about what we are able to do now and explore the problem. It's not technological or physics problems that are going to stop us from going to the nearest stars. It's problems that are biological, sociological, ecological, and psychological. These are the problems that can't be solved. What you would really want to send is a spaceship like a small Earth, with everything on it, utterly stable, and able to take the hundreds of years it would take to get to another planet. Also able to slow down, which is a severe problem once you get up to speed. And when you get there, you would have to alter the planet that you want to inhabit. It depends if it's a water world or not; it depends if it's got anything alive on it or not. All these issues come into play when you get there, and when you add them all up, it won't work.

It's an idea that was developed very crudely in the nineteenth century by people who thought that humans were not biological but actually spiritual beings. Once you look at interstellar travel closely enough, you realize that it's an impossible project. People might do it anyway; I had to postulate that to get my story going. There's always religious fanatics for any particular religion, and spreading humanity through the stars is an old idea that some people are quite enthusiastic about. I was

influenced by the Mars One project, where something like 200,000 people signed up to go to Mars one-way, and to live the rest of their lives and die there. It shows how people live in their ideas—we all do—but ideas can be crazy or non-viable. I wrote *Aurora* to tell that story.

Once you get to another planet . . . well, if it's alive, you have a terrible problem. If it's dead, you have a different kind of terrible problem, terraforming, which could take thousands of years. If you can't tell whether it's alive or

dead, which is the third possibility, you've still got a terrible problem. We can't even tell if Mars is alive or dead, for instance. So what I tried to do is tell the story without making it just an extinction story. There had to be a plot twist of some sort, and there is. That's what makes it a novel rather than a position.

Notes

¹ Alex Woloch, *The One vs. The Many: Minor Characters and the Space of the Protagonist in the Novel* (Princeton, NJ: Princeton University Press, 2003).

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