#### No space tech IL or impact, which answers the laundry list.

Konrad **Szocik 19**. University of Information Technology and Management in Rzeszow, Department of Philosophy and Cognitive Science. 01/2019. “Should and Could Humans Go to Mars? Yes, but Not Now and Not in the near Future.” Futures, vol. 105, pp. 54–66.

Milligan (2011) discusses argument from duty to extend human life. Interplanetary settlement is one of ways of realization of this duty. He adds that humanity should do that by, among others, involving private companies to invest in space technology (Milligan, 2011, p. 191). I find here at least four unjustified assumptions. First, even if there is duty to extend human life, it is not an absolute postulate, is still a relative value which should take into account issues pertaining to ecosystem and sustainable development. Second, there is no reliable analysis which shows that space expansion is the best and/or at least necessary option. No one is able to anticipate and to calculate cost to benefit ratio of such unprecedented project in human history as a mass exodus to Mars (or elsewhere in space). Third, following the ethics of quality of life, we have duty to take care for some minimal level of quality, comfort, pleasure, and well-being of the mankind. Living on post-catastrophe Earth in any kind of refuge still may be a better place to live than Mars habitat. Needless to say that physical properties of Mars including reduced gravity or cosmic ray may be the source of permanent harm and deprivation (the full lists of physiological risks in space, see: Letter Report, 2016). Is living in small, confined, and relatively unsafe Mars habitat worth risking human life? Fourth, Milligan proposes that private companies will want to invest in the space industry. But the capitalistic idea of privatization has some limitations. As classic economic theories state, this idea may be applied only when cost-benefit ratio is profitable for the private investor. This common economic knowledge shows that the main difference between public and private investors lies in their different approaches to profits and responsibility. Expected benefits should justify risk and costs of investing by private investor but this is not the case of space missions (Genta, 2014). Max Grimard (2012), p. 2) takes for granted that private investors are not long-term oriented, mostly in deep-space missions where there are no direct benefits. Only a public investor permanently sponsored by taxes can conduct long-term, intergenerational project that is not oriented toward profits. Public transport and public medical care are good illustrations of systems oriented on common welfare, not profits. They are continued despite failures and risks. Another example is building of public roads. Despite possible exemptions, only governments are able to invest in building many kilometers of highway, tunnels, or bridges. In some cases, private investors and/or their consortium realize such projects but only within public-private partnership. After that, they get back invested money by charges paid for use of the roads. Space industry faces challenges. First, it is obliged to take big effort to get access to effective human space mission projects. Even the shortest scenario of human mission to Mars is a complex task including journey to Mars, habitat on Mars, infrastructure enabling launch, and return journey to Earth. Permanent concerns are human psychological and physiological health and basic human survival. Possible profits which could attract possible private investors are unclear. Currently achievable profits in space industry include Earth observation or telecommunication (Borowitz & Battat, 2016), but that is not likely enough. Second, putative future final products as safe spacecraft and safe space habitat require long-term, perhaps intergenerational effort and investing which will not be refundable neither profitable. The problem arises when no real and possible profits are expected. Even if commercial companies would be able to invest their money in interplanetary project, why they should do that? How could they earn money by sending people to Mars? Who will pay for it? Can we expect that at least one millionaire decides to go to Mars? How much he should pay for this service to make it profitable for investors to cover costs of multi-decade efforts preceding preparation of first flight? Current commercial space projects as cargo service provided by Space X or planned in the near future space tourism including trips to low Earth orbit and space hotels, or asteroid mining are substantially different than human mission to Mars. Advocates and enthusiasts of private sector miss this difference. There is a big substantial technological gap between Elon Musk’s investment to the ISS, and an entrepreneur’s capacity to organize human mission to Mars.

#### Space war is sci-fi.

Michael Neufeld 21. Senior Curator in the Space History Department; Ph.D. in Modern European History, Johns Hopkins University. A. Verville Fellow; Smithsonian and National Science Foundation fellowships; Smithsonian Distinguished Scholar. “Cold War – But No War – in Space.” *Militarizing Outer Space*, Chapter 2.

Space war has been a fixture of astroculture since the blossoming of science fiction in the late nineteenth century. Battles with aliens, space fighters, ray guns and laser weapons have been depicted in novels, comic books, movies and computer games, and this genre got a new lease on life with the release of the Star Wars motion picture in 1977. Yet in the more than seventy years since the end of the Second World War, when outer space was first penetrated by the V-2 ballistic missile, no hostile military action between two powers has ever taken place outside the atmosphere. Weapons, including nuclear warheads, have been tested in space and nations have destroyed their own spacecraft in anti-satellite (ASAT) systems tests. The Cold War between the United States, the Soviet Union and their allies drove the expenditure of trillions of dollars on military space systems. The end of that contest around 1990 did not significantly change the trajectory either. Still, no shots — or lasers — have been fired in engagements between space powers.

During the Cold War, space near the earth militarized but did not weaponize. Multiple national security satellite systems were put into space, but no weapons were permanently stationed in orbit or on the moon. The great-power consensus behind that process, which has had only a partial basis in international law and has sometimes looked like it might collapse, has remained in place until today because military satellite systems have stabilized, rather than destabilized, world order. While nuclear deterrence was the fundamental reason why the Cold War became, in the words of historian John Lewis Gaddis, ‘the long peace’ (at least in terms of great-power war, not the devastating proxy wars in the so-called Third World), reconnaissance and early warning spacecraft made a nuclear war much less likely.2 Nuclear arms control and eventual reduction were only possible because the superpowers could use ‘national technical means of verification,’ in the deliberately vague language of US-Soviet treaties, to determine how many delivery systems the other side had and what their capability was. Navigation and geodetic satellites were launched to make nuclear targeting much more accurate, and became critical to precision conventional strikes on earth after the Cold War was over, yet they are now essential to civilian life through vehicle and handheld navigation systems. In short and on balance, the militarization of near-earth space has been a positive force for global stability and the global economy, notwithstanding repeated threats to destabilize the regime with space weaponry. One more aspect is equally striking: the gulf between space fiction and space reality in the military realm only widened during and after the Cold War. Space war makes for popular entertainment, but so far, at least, it has made very little military or political sense.