### 1

**Interpretation: topical affs must fiat an action through the World Trade Organization**

**Member nations of the WTO make policies as a whole**

**WTO ND** [(World Trade Organization) “Whose WTO is it anyway?”] JL

**The WTO is run by its member governments**. All major decisions are made by the **membership as a whole**, either by ministers (who usually meet at least once every two years) or by their ambassadors or delegates (who meet regularly in Geneva).

In this respect, the WTO is different from some other international organizations such as the World Bank and International Monetary Fund. In the WTO, power is not delegated to a board of directors or the organization’s head.

When WTO rules impose disciplines on countries’ policies, that is the outcome of negotiations among WTO members. The rules are enforced by the members themselves under agreed procedures that they negotiated, including the possibility of trade sanctions. But those sanctions are imposed by member countries, and authorized by the membership as a whole. This is quite different from other agencies whose bureaucracies can, for example, influence a country’s policy by threatening to withhold credit.

Reaching decisions by **consensus among some 150 members** can be difficult. Its main advantage is that **decisions made this way are more acceptable to all members**. And despite the difficulty, some remarkable agreements have been reached. Nevertheless, proposals for the creation of a smaller executive body — perhaps like a board of directors each representing different groups of countries — are heard periodically. But for now, the WTO is a member-driven, consensus-based organization.

**Nation and government are synonymous**

**Merriam Webster ND** [“nation” Merriam Webster, https://www.merriam-webster.com/dictionary/nation] BC

Definition of nation

 (Entry 1 of 2)

1a(1): NATIONALITY sense 5athree Slav peoples … forged into a Yugoslavia without really fusing into a Yugoslav nation— Hans Kohn

(2): a politically organized nationality

(3)in the Bible : a non-Jewish nationality why do the nations conspire— Psalms 2:1 (Revised Standard Version)

b: **a** community of people composed of one or more nationalities and possessing a more or less defined territory and **government** Canada is a nation with a written constitution— B. K. Sandwell

c: a territorial division containing a body of people of one or more nationalities and usually characterized by relatively large size and independent status a nation of vast size with a small population— Mary K. Hammond

**Collective nouns are singular – this means “member nations” refers to a singular entity**

**MLA 3/8** [“Should I use a singular or plural verb with a collective noun?” MLA Style Center, 3/8/2021] JL

**Collective nouns**, like *team*, *family, class*, *group*, and *host*, **take a singular verb when the entity acts together** and a plural verb when the individuals composing the entity act individually. The following examples demonstrate this principle:

The team is painting a mural. (The team collectively paints the mural, so the verb is singular*.*)

**Violation – they don’t**

**Prefer:**

1. **Precision – even if Jordan is a member nation, that’s distinct from fiating member nations as a unified actor – outweighs because it justifies jettisoning other words in the rez – prefer our interp – we have evidence from the WTO that explains what coordinated action looks like**
2. **Limits and ground – explodes the topic to include affs about any country reducing IP – ensuring it is an international reduction of IP which is ensures link magnitude and generics like WTO bad, multilat Ks, negotiations and politics DAs, and circumvention – stretches pre-tournament neg prep too thin and precluding rigorous testing – theory and medicine spec affs solve PICs**
3. **Topic ed – WTO patent waivers are the topic – their aff is just domestic policy passed in Jordan – proven by their second advantage – none of their internal links are about medical trade secrets which proves their interpretation is a cheap way of getting a relations impact about any two countries – justifies the US-Mexico or China-Japan aff. Outweighs – prep is determined by the lit and we only have 2 months to debate the topic**
4. **TVA – spec a medicine – ensures nuanced debates while preserving WTO-specific ground**

**Paradigm issues:**

1. **Drop the debater – their abusive advocacy skewed the debate from the start**
2. **Competing interps – reasonability invites arbitrary judge intervention and a race to the bottom of questionable argumentation**
3. **Fairness is a voter ­– necessary to determine the better debater**
4. **Education is a voter – why schools fund debate**

### 2

**Interpretation: Intellectual property for medicine only refers to patents.**

**Oxfam** [Oxfam is a British founded confederation of 20 independent charitable organizations focusing on the alleviation of global poverty, founded in 1942 and led by Oxfam International. It is a major nonprofit group with an extensive collection of operations, “Intellectual property and access to medicine”, No Date, [https://www.oxfamamerica.org/explore/issues/economic-well-being/intellectual-property-and-access-to-medicine/]//pranav](https://www.oxfamamerica.org/explore/issues/economic-well-being/intellectual-property-and-access-to-medicine/%5d//pranav)

* Independently – becomes an alt cause to plan solvency

**Intellectual property (IP) has different forms; in the case of access to medicines, we are talking about patents.** Patents are a public policy instrument aimed at stimulating innovation. **By providing a monopoly through a patent—which gives inventors an economic advantage—governments seek to provide an incentive for R&D. At the same time, the public benefits from technological advancement.**

**Violation: Data exclusivity is IP on data from clinical trials, not on the medicine itself and is distinct from patent protection.**

**Thrasher ’21** [Rachel, received a JD and a master’s degree in international relations, both from Boston University. She works on policy issues related to trade and investment agreements, trade law and development, economic relations between developing countries, and multilateral environmental agreements. She is the co-editor, alongside former Pardee Center Director Adil Najam, of a Pardee-sponsored book titled The Future of South-South Economic Relations. She teaches a course on trade and development at the Pardee School of Global Studies and continues to research areas of trade and investment agreements and their impact on development policy as part of the Global Economic Governance Initiative at Boston University, “Chart of the Week: How Data Exclusivity Laws Impact Drug Prices”, 05-21-2021, https://www.bu.edu/gdp/2021/05/25/chart-of-the-week-how-data-exclusivity-laws-impact-drug-prices/]//pranav

**Data exclusivity is a form of intellectual property protection that applies specifically to data from pharmaceutical clinical trials.** While innovator firms run their own clinical trials to gain marketing approval, generic manufacturers typically rely on the innovator’s clinical trials for the same approval. Data exclusivity rules keep generic firms from relying on that data for 5 to 12 years, depending on the specific law. **Data exclusivity operates independently of patent protection and can block generic manufacturers from gaining marketing approval even if the patent has expired or the original pharmaceutical product does not qualify for patent protection.**

**Vote neg for limits – their interp explodes the topic to intellectual property protections on things other than medicine – that includes food, music, clinical trials, and more, all with distinct scenarios and no unified neg ground which makes pre-round prep impossible, killing clash. That controls the internal link to education – only terminal impact in debate and fairness – only thing under the judge’s jurisdiction.**

### 3

**Rotb is to resist capitalism in educational spaces – challenging capitalism within debate is key to decenter – every alt and impact we read is a warrant**

**The aff’s portrayal of a world with reduced IP protections as an “information commons” where medical inequality is solved by deregulation perpetuates the neoliberal myth of a perfect market   
Kapczynski 14** [(Amy, a Professor of Law at Yale Law School, Faculty Co-Director of the Global Health Justice Partnership, and Faculty Co-Director of the Collaboration for Research Integrity and Transparency. She is also Faculty Co-Director of the Law and Political Economy Project and cofounder of the Law and Political Economy blog. Her areas of research include information policy, intellectual property law, international law, and global health.) “INTELLECTUAL PROPERTY’S LEVIATHAN” Duke Law, Law & Contemporary problems, 2014. https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=4710&context=lcp] BC

Over the last decade or so, a powerful set of **critiques has emerged** to contest the dominant account just sketched out as well as the contemporary **state of IP law**.12 These arguments have come from many directions, some even arising from scholars who previously were champions of the dominant account.13 The most prominent and potent line of theoretical critique in the legal literature has come in the guise of arguments for free culture and the **“information commons”** and has been most influentially articulated by Lawrence Lessig and Yochai Benkler.14 Both have stressed the problems with expansive exclusive rights regimes in information and have also sketched a set of actually existing alternatives to market-based exclusionary forms of information and cultural production.

Lessig has written a series of influential books that have made him a “rock star of the information age,”15 particularly for young Internet and free-culture activists. He has argued powerfully, for example, that existing copyright law is in deep **conflict with the radical new possibilities for creativity** in the digital age. As he points out, when a mother posting a video of her toddler dancing to a Prince song on YouTube is threatened with a $150,000 fine for copyright infringement, something has gone seriously awry.16 Lessig also contends that copyright law today is too long, too expansive, and instantiates a “permission culture” that is antithetical to free expression in the age of the remix.17 As he puts it, “the Internet has unleashed an extraordinary possibility for many to participate in the process of building and cultivating a culture that reaches far beyond local boundaries,” creating the possibility of markets that “include a much wider and more diverse range of creators,” if not **stifled by incumbents who use IP law to “protect themselves against this competition**.”18

Benkler’s work has also been extraordinarily formative in the field, particularly for his insights into the multiplicity of modes of information production. As he has stressed, the conventional justification for IP does not account for the many successful and longstanding modes of market nonexclusionary information production.19 For example, attorneys write articles to attract clients, software developers sell services customizing free and opensource software for individual clients, and bands give music away for free to increase revenues from touring or merchandise.20 More pathbreaking still is Benkler’s account of the importance of “commons-based peer production,” a form of socially motivated and cooperative production exemplified by the volunteer network that maintains Wikipedia or the groups of coders who create open-source software products such as the Linux operating system.21 In the digital networked age, as Benkler describes, the tools of information production are very broadly distributed, “creating new opportunities for how we make and exchange information, knowledge, and culture.”22 These changes have increased the relative role in our information economy of nonproprietary production and facilitate “new forms of production [that] are based neither in the state nor in the market.”23 Because commons-based peer production is not hierarchically organized and is motivated by social dynamics and concerns, it also offers new possibilities for human development, human freedom, a more critical approach to culture, and more democratic forms of political participation.24

This line of critique has been profoundly generative and has helped launch an important new conceptualization of the commons as a paradigm. That paradigm, as a recent book puts it, “helps us ‘get outside’ of the dominant discourse of the market economy and helps us represent different, more wholesome ways of being.”25 Proponents of the commons concept draw upon contemporary articulations of successful commons-based resource management by Elinor Ostrom and her followers.26 They do mobilize retellings of the political and economic history of the commons in land in Europe before enclosure,27 and recent evidence from psychology and behavioral economics that suggests that humans have deep tendencies toward cooperation and reciprocation.28 They argue that A key revelation of the commons way of thinking is that we humans are not in fact isolated, atomistic individuals. We are not amoebas with no human agency except hedonistic “utility preferences” expressed in the marketplace. No: We are commoners—creative, distinctive individuals inscribed within larger wholes. We may have unattractive human traits fueled by individual fears and ego, but we are also creatures entirely capable of self-organization and cooperation; with a concern for fairness and social justice; and willing to make sacrifices for the larger good and future generations.29

This stands, of course, as a powerful rebuke to the neoliberal imaginary, which “constructs and interpellates individuals as . . . rational, calculating creatures whose moral autonomy is measured by their capacity for ‘self-care’— the ability to provide for their own needs and service their own ambitions.”30

III

Given this radical—and, in my view, critically important—attempt to rethink the subject at the core of neoliberal accounts, it is all the more striking that **proponents of the commons often appear to adopt a neoliberal image of the state.** For example, the introduction to a recently edited volume that gathers writings on the commons from seventy-three authors in thirty countries (entitled, tellingly, The Wealth of the Commons: A World Beyond Market and State) has this to say:

The presumption that the state can and will intervene to represent the interests of citizens is no longer credible. Unable to govern for the long term, captured by commercial interests and hobbled by stodgy bureaucratic structures in an age of nimble electronic networks, the state is arguably incapable of meeting the needs of citizens as a whole.31

The commons, they suggest, is a concept that seeks not only to liberate us from predatory and dysfunctional markets, but also from predatory and dysfunctional states. Something immediately seems incongruous here. **If people are inherently cooperative reciprocators, why are states irredeemably corrupt?** After all, as Harold Demsetz famously wrote in his 1967 attack on Arrow’s optimism about state production of information, “[g]overnment is a group of people.”32

Lessig, one of the progenitors of the language of the commons in the informational domain, often leads with a similar view of the state:

[I]f the twentieth century taught us one lesson, it is the dominance of private over state ordering. Markets work better than Tammany Hall in deciding who should get what, when. Or as Nobel Prize-winning economist Ronald Coase put it, whatever problems there are with the market, the problems with government are more profound.33

Lessig reveals his own sense of the power of this conception of the state when he seeks to tar IP law with the same brush; we should rebel against current IP law, he suggests, because we should “limit the government’s role in choosing the future of creativity.”34

Benkler is more measured but admits as well to viewing the state as “a relatively suspect actor.”35 We should worry, he suggests, that direct governmental intervention “leads to centralization in the hands of government agencies and powerful political lobbies,”36 a view that echoes the neoliberal account described above.

It should perhaps not surprise us that leading **critics of neoliberal information policy embrace a neoliberal conception of the state**. After all, neoliberalism is not merely an ideology, but also a set of policy prescriptions that may have helped to call forth the state that it has described. As David Harvey puts it, **“[t]he neoliberal fear that special-interest groups would pervert and subvert the state is nowhere better realized than in Washington, where armies of corporate lobbyists . . . effectively dictate legislation to match their special interests**.”37

There are, it must be said, few areas of law that better exemplify this problem than IP law. For example, Jessica Litman has documented the astonishing process through which the 1976 Copyright Act was drafted, in which Congress delegated most of the drafting to interest groups that were forced to negotiate with one another.38 Other scholars have offered similarly startling accounts of the genesis of the most important IP treaty today, the TradeRelated Aspects of Intellectual Property Rights (TRIPS) Agreement. TRIPS came into force in 1996, revolutionizing international IP law by both imposing new standards and by rendering them enforceable through the WTO’s disputeresolution system, which authorizes trade retaliation to enforce its judgments. Most countries in the world are members of TRIPS, and the Agreement introduced, for developing countries in particular, substantial new obligations, such as the obligation to grant patents on medicines and food-related inventions. Several excellent histories of the treaty have been written, documenting its beginnings as a brash idea proposed by “twelve chief executive officers (representing pharmaceutical, entertainment, and software industries).”39 As Susan Sell has described, the **TRIPS Agreement was a triumph of industry organizing.** Through TRIPS, Industry **revealed its power to identify and define a trade problem, devise a solution, and reduce it to a concrete proposal that could be sold to governments.**

**Attempts to reform the WTO are neoliberal attempts to sustain the US regime of accumulation – the contradictions of capitalism are why credibility is low, not IP protection**

**Bachand 20** [(Remi, Professor of International Law, Département des sciences juridiques, member of the Centre d’études sur le droit international et la mondialisation (CÉDIM), Université du Québec à Montréal, Canada) “What’s Behind the WTO Crisis? A Marxist Analysis” The European Journal of International Law, 8/12/2020. https://academic.oup.com/ejil/article-abstract/31/3/857/5920920?redirectedFrom=fulltext] BC

To offer our own explanation, we must recall two aspects of our theoretical framework. The first is Robert Cox’s claim113 that the function of international organizations **is to ensure the creation and reproduction of hegemony**. To be more accurate, they serve, if we follow his argument**, to defend and to expand the ‘mode of production’** (we elected to substitute this term for the concept of ‘regime of accumulation’ that appears to be more appropriate for our means) **of the dominant social classes of the dominant state.** Joining this idea with the école de la régulation and social structure of accumulation theory writing114 according to which a regime of accumulation needs some regulation institutions to help resolve its contradictions (**and ensure profits and capital accumulation to dominant social classes**), we can conclude that the Geneva organization’s function in the US hegemonic order is to make sure that **neoliberalism works well enough to provide a satisfying rate of profit for US capitalists.**

Going in that direction, Kristen Hopewell shows that the WTO’s creation participated in a shift in global governance from ‘embedded liberalism’ to neoliberalism115 and was slated to be an important part of that governance. Using the conceptual framework developed earlier, we can infer that **the WTO was thus given a regulation function that was to ensure the operationalization of counteracting factors to the fall of the rate of profit for US capitalists.** Now, as we have seen, the US rate of profit has been extremely unstable in the last two decades and Chinese expansion (and that of other ‘emerging countries’) allows one to predict that the situation could easily worsen in the future. Consequently, it should come as no surprise that **the crisis that has been striking neoliberalism** for the last 20 years **may also result in a crisis of the organizations** that are supposed to manage its contradictions, **especially the WTO.** Concretely, this organization seems unable to fulfil its regulatory function anymore, which is to ensure US capitalists a good rate of profit and opportunities to operationalize enough counteracting factors to negate its fall.

To go further, we now need to return to Stephen Gill’s claim that the function of an international organization is to limit political and economic possibilities. It is **to exclude, in other words, options that are incompatible with the social order promoted by the hegemon from what is possible and achievable**.116 Effectively, the WTO was created to play such a role. Indeed, promoting liberalization of goods and services, protecting (notably intellectual) property rights and attacking subsidies (in non-agriculture sectors), just to give a few examples, **all serve to severely reduce state interventions into the economy and to circumscribe or at least to strongly impede the turn towards an alternative model to neoliberalism**

**Capitalism causes war, violence, and the root cause of climate change. Capitalism leads to extinction**

**Robinson 14** (William I., Prof. of Sociology, Global and International Studies, and Latin American Studies, @ UC-Santa Barbara, “Global Capitalism: Crisis of Humanity and the Specter of 21st Century Fascism” The World Financial Review)

Cyclical, Structural, and Systemic Crises ¶ Most commentators on the contemporary crisis refer to the “Great Recession” of 2008 and its aftermath. Yet the causal origins of global crisis are to be found in over-accumulation and also in contradictions of state power, or in what Marxists call the internal contradictions of the capitalist system. Moreover, because the system is now global, crisis in any one place tends to represent crisis for the system as a whole. The system cannot expand because the marginalisation of a significant portion of humanity from direct productive participation, the downward pressure on wages and popular consumption worldwide, and the polarisation of income, has reduced the ability of the world market to absorb world output. At the same time, given the particular configuration of social and class forces and the correlation of these forces worldwide, national states are hard-pressed to regulate transnational circuits of accumulation and offset the explosive contradictions built into the system. ¶ Is this crisis cyclical, structural, or systemic? Cyclical crises are recurrent to capitalism about once every 10 years and involve recessions that act as self-correcting mechanisms without any major restructuring of the system. The recessions of the early 1980s, the early 1990s, and of 2001 were cyclical crises. In contrast, the 2008 crisis signaled the slide into a structural crisis*. Structural crises* reflect deeper contra- dictions that can only be resolved by a major restructuring of the system. The structural crisis of the 1970s was resolved through capitalist globalisation. Prior to that, the structural crisis of the 1930s was resolved through the creation of a new model of redistributive capitalism, and prior to that the struc- tural crisis of the 1870s resulted in the development of corpo- rate capitalism. A systemic crisis involves the replacement of a system by an entirely new system or by an outright collapse. A structural crisis opens up the possibility for a systemic crisis. But if it actually snowballs into a systemic crisis – in this case, if it gives way either to capitalism being superseded or to a breakdown of global civilisation – is not predetermined and depends entirely on the response of social and political forces to the crisis and on historical contingencies that are not easy to forecast. This is an historic moment of extreme uncertainty, in which collective responses from distinct social and class forces to the crisis are in great flux. ¶ Hence my concept of global crisis is broader than financial. There are multiple and mutually constitutive dimensions – economic, social, political, cultural, ideological and ecological, not to mention the existential crisis of our consciousness, values and very being. There is a crisis of social polarisation, that is, of *social reproduction.* The system cannot meet the needs or assure the survival of millions of people, perhaps a majority of humanity. There are crises of state legitimacy and political authority, or of *hegemony* and *domination.* National states face spiraling crises of legitimacy as they fail to meet the social grievances of local working and popular classes experiencing downward mobility, unemployment, heightened insecurity and greater hardships. The legitimacy of the system has increasingly been called into question by millions, perhaps even billions, of people around the world, and is facing expanded counter-hegemonic challenges. Global elites have been unable counter this erosion of the system’s authority in the face of worldwide pressures for a global moral economy. And a canopy that envelops all these dimensions is a crisis of sustainability rooted in an ecological holocaust that has already begun, expressed in **climate change and the impending collapse of centralised agricultural** systems in several regions of the world, among other indicators. By a crisis of humanityI mean a crisis that is approaching systemic proportions, **threatening the ability of billions of people to survive**, and raising the specter of a collapse of world civilisation and degeneration into a new “Dark Ages.”2 ¶ This crisis of humanity shares a number of aspects with earlier structural crises but there are also several features unique to the present: ¶ 1. The system is fast reaching the **ecological limits of its reproduction**. Global capitalism now couples human and natural history in such a way as to threaten to bring about what would be the sixth mass extinction in the known history of life on earth.3 This mass extinction would be caused not by a natural catastrophe such as a meteor impact or by evolutionary changes such as the end of an ice age but by purposive human activity. According to leading environmental scientists there are nine “planetary boundaries” crucial to maintaining an earth system environment in which humans can exist, four of which are experiencing at this time the onset of irreversible environmental degradation and three of which (climate change, the nitrogen cycle, and biodiversity loss) are at “tipping points,” meaning that these processes have already crossed their planetary boundaries. ¶ 2. The magnitude of the means of **violence** and social control **is unprecedented**, as is the concentration of the means of global communication and symbolic production and circulation in the hands of a very few powerful groups. **Computerised wars, drones, bunker-buster bombs**, star wars, and so forth, have changed the face of warfare. Warfare has become normalised and sanitised for those not directly at the receiving end of armed aggression. At the same time we have arrived at the panoptical surveillance society and the age of thought control by those who control global flows of communication, images and symbolic production. The world of Edward Snowden is the world of George Orwell; *1984 has arrived;* ¶ 3. Capitalism is reaching apparent limits to its extensive expansion. There are no longer any new territories of significance that can be integrated into world capitalism, de-ruralisation is now well advanced, and the commodification of the countryside and of pre- and non-capitalist spaces has intensified, that is, converted in hot-house fashion into spaces of capital, so that *intensive* expansion is reaching depths never before seen. Capitalism must continually expand or collapse. How or where will it now expand? ¶ 4. There is the rise of a vast surplus population inhabiting a “planet of slums,”4 alienated from the productive economy, thrown into the margins, and subject to sophisticated systems of social **control and to destruction** - to a mortal cycle of dispossession-exploitation-exclusion. This includes **prison-industrial and immigrant-detention complexes, omnipresent policing, militarised gentrification**, and so on; ¶ 5. There is a disjuncture between a globalising economy and a nation-state based system of political authority. Transnational state apparatuses are incipient and have not been able to play the role of what social scientists refer to as a “hegemon,” or a leading nation-state that has enough power and authority to organise and stabilise the system. The spread of **w**eapons of **m**ass **d**estruction and the unprecedented militarisation of social life and conflict across the globe makes it hard to imagine that the system can come under any stable political authority that assures its reproduction. ¶ Global Police State ¶ How have social and political forces worldwide responded to crisis? The crisis has resulted in a rapid political polarisation in global society. Both right and left-wing forces are ascendant. Three responses seem to be in dispute. ¶ One is what we could call “reformism from above.” This elite reformism is aimed at stabilising the system, at saving the system from itself and from more radical re- sponses from below. Nonetheless, in the years following the 2008 collapse of the global financial system it seems these reformers are unable (or unwilling) to prevail over the power of transnational financial capital. A second response is popular, grassroots and leftist resistance from below. As social and political conflict escalates around the world there appears to be a mounting global revolt. While such resistance appears insurgent in the wake of 2008 it is spread very unevenly across countries and regions and facing many problems and challenges. ¶ Yet another response is that I term *21st century fascism*.5 The ultra-right is an insurgent force in many countries. In broad strokes, this project seeks to fuse reactionary political power with transnational capital and to organise a mass base among historically privileged sectors of the global working class – such as white workers in the North and middle layers in the South – that are now experiencing heightened insecurity and the specter of downward mobility. It involves **militarism, extreme masculinisation, homophobia, racism and racist mobilisations**, including the search for scapegoats, such as immigrant workers and, in the West, Muslims. **Twenty-first century fascism** evokes mystifying ideologies, often involving race/culture supremacy and xenophobia, embracing an idealised and mythical past. Neo-fascist culture **normalises and glamorises warfare** and social violence, indeed, generates a fascination with domination that is portrayed even as heroic.

**The alternative is to affirm the model of the Communist Party – only the Party can provide effective accountability mechanisms to correct violent tendencies within organizing, educate and mobilize marginalized communities, and connect local struggles to a movement for international liberation.**

**Escalante 18**. Alyson Escalante is a Marxist-Leninist. Materialist Feminist and Anti-Imperialist activist. “Party Organizing in the 21st Century. September 2018. <https://theforgenews.org/2018/09/21/party-organizing-in-the-21st-century.>

I would argue that within the base building movement, there is a move towards party organizing, but this trend has not always been explicitly theorized or forwarded within the movement. My goal in this essay is to argue that base building and dual power strategy can be best forwarded through party organizing, and that party organizing can allow this emerging movement to solidify into a powerful revolutionary socialist tendency in the United States. One of the crucial insights of the base building movement is that the current state of the left in the United States is one in which revolution is not currently possible. There exists very little popular support for socialist politics. A century of anticommunist propaganda has been extremely effective in convincing even the most oppressed and marginalized that communism has nothing to offer them. The base building emphasis on dual power responds directly to this insight. By building institutions which can meet people’s needs, we are able to concretely demonstrate that communists can offer the oppressed relief from the horrific conditions of capitalism. Base building strategy recognizes that actually doing the work to serve the people does infinitely more to create a socialist base of popular support than electing democratic socialist candidates or holding endless political education classes can ever hope to do. Dual power is about proving that we have something to offer the oppressed. The question, of course, remains: once we have built a base of popular support, what do we do next? If it turns out that establishing socialist institutions to meet people’s needs does in fact create sympathy towards the cause of communism, how can we mobilize that base? Put simply: **in order to mobilize the base which base builders hope to create, we need to have already done the work of building a communist party.** It is not enough to simply meet peoples needs. Rather, we must build the institutions of dual power in the name of communism. We **must refuse** **covert front organizing and instead have** a public face as a communist party. When we build tenants unions, serve the people programs, and other dual power projects, we must make it clear that we are organizing as communists, unified around a party, and are not content simply with establishing endless dual power organizations. We must be clear that our strategy is revolutionary and in order to make this clear we must adopt party organizing. By “party organizing” I mean an organizational strategy which adopts the party model. Such organizing focuses on building a party whose membership is formally unified around a party line determined by democratic centralist decision making. The party model creates internal methods for **holding party members accountable**, unifying party member action around democratically determined goals, and for educating party members in communist theory and praxis. A communist organization utilizing the party model works to build dual power institutions while simultaneously educating the communities they hope to serve. Organizations which adopt the party model focus on propagandizing around the need for revolutionary socialism. They function as the forefront of political organizing, empowering local communities to theorize their liberation through communist theory while organizing communities to literally fight for their liberation. A party is not simply a group of individuals doing work together, but is a formal organization unified in its fight against capitalism. Party organizing has much to offer the base building movement. By working in a unified party, base builders can ensure that local struggles are tied to and informed by a unified national and international strategy. While the most horrific manifestations of capitalism take on particular and unique form at the local level, we need to remember that our struggle is against a material base which functions not only at the national but at the international level. The formal structures provided by a democratic centralist party model allow individual locals to have a voice in open debate, but also allow for a unified strategy to emerge from democratic consensus. Furthermore, **party organizing allows for local organizations and individual organizers to be held accountable for their actions.** It allows criticism to function not as one independent group criticizing another independent group, but rather as comrades with a formal organizational unity working together to sharpen each others strategies and to help correct chauvinist ideas and actions. In the context of the socialist movement within the United States, such **accountability is crucial**. As a movement which operates within a settler colonial society, imperialist and colonial ideal frequently infect leftist organizing. Creating formal unity and party procedure for dealing with and correcting these ideas allows us to address these consistent problems within American socialist organizing. Having a formal party which unifies the various dual power projects being undertaken at the local level also allows for base builders to not simply meet peoples needs, but to pull them into the membership of the party as organizers themselves. The party model creates a means for sustained growth to occur by unifying organizers in a manner that allows for skills, strategies, and ideas to be shared with newer organizers. It also allows community members who have been served by dual power projects to take an active role in organizing by becoming party members and participating in the continued growth of base building strategy. It ensures that there are formal processes for educating communities in communist theory and praxis, and also enables them to act and organize in accordance with their own local conditions. We also must recognize that the current state of the base building movement precludes the possibility of such a national unified party in the present moment. Since base building strategy is being undertaken in a number of already established organizations, it is not likely that base builders would abandon these organizations in favor of founding a unified party. Additionally, it would not be strategic to immediately undertake such complete unification because it would mean abandoning the organizational contexts in which concrete gains are already being made and in which growth is currently occurring. What is important for base builders to focus on in the current moment is building dual power on a local level alongside building a national movement. This means aspiring towards the possibility of a unified party, while pursuing continued local growth. The movement within the Marxist Center network towards some form of unification is positive step in the right direction. The independent party emphasis within the Refoundation caucus should also be recognized as a positive approach. It is important for base builders to continue to explore the possibility of unification, and to maintain unification through a party model as a long term goal. In the meantime, individual base building organizations ought to adopt party models for their local organizing. Local organizations ought to be building dual power alongside recruitment into their organizations, education of community members in communist theory and praxis, and the establishment of armed and militant party cadres capable of defending dual power institutions from state terror. Dual power institutions must be unified openly and transparently around these organizations in order for them to operate as more than “red charities.” Serving the people means meeting their material needs while also educating and propagandizing. It means radicalizing, recruiting, and organizing. The party model remains the most useful method for achieving these ends. The use of the party model by local organizations allows base builders to gain popular support, and most importantly, to mobilize their base of popular support towards revolutionary ends, not simply towards the construction of a parallel economy which exists as an end in and of itself. It is my hope that we will see future unification of the various local base building organizations into a national party, but in the meantime we must push for party organizing at the local level. If local organizations adopt party organizing, it ought to become clear that **a unified national party will have to be the long term goal of the base building movement.** Many of the already existing organizations within the base building movement already operate according to these principles. I do not mean to suggest otherwise. Rather, my hope is to suggest that we ought to be explicit about the need for party organizing and emphasize the relationship between dual power and the party model. Doing so will make it clear that the base building movement is not pursuing a cooperative economy alongside capitalism, but is pursuing a revolutionary socialist strategy capable of fighting capitalism. The long term details of base building and dual power organizing will arise organically in response to the conditions the movement finds itself operating within. I hope that I have put forward a useful contribution to the discussion about base building organizing, and have demonstrated the need for party organizing in order to ensure that the base building tendency maintains a revolutionary orientation. The finer details of revolutionary strategy will be worked out over time and are not a good subject for public discussion. I strongly believe party organizing offers the best path for ensuring that such strategy will succeed. My goal here is not to dictate the only possible path forward but to open a conversation about how the base building movement will organize as it transitions from a loose network of individual organizations into a unified socialist tendency. These discussions and debates will be crucial to ensuring that this rapidly growing movement can succeed.

#### Rotb is to resist capitalism in educational spaces – challenging capitalism within debate is key to decenter – every alt and impact we read is a warrant

**Case**

**T/L**

#### [a] T/L This affirmative does not have an internal link – their scenario is predicated on economic stagflation and collapse BUT they do not have impact uniqueness about why a collapse happens now. The Salih evidence doesn’t cut it – just bc it says key to econ growth doesn’t mean it means a lack of phrma causes less econ growth

**Data exclusivity isn’t correlated with high prices and increases health equality in the long term**

Jack **Ellis 17** [Jack Ellis is a journalist and editor who has written extensively on technology, investment, and innovation-related issues and a Contributor at Geneva Network.. Why regulatory data protection matters for medicines, Geneva Network (July 11, 2017) https://geneva-network.com/research/regulatory-data-protection-matters-medicines/]//anop

of India’s biotech regulation bill, and of IP protections more generally, have characterised RDP as another avenue for large pharmaceutical corporations to maintain a monopoly over the drugs they have invented, even after their patents expire. This, they argue, increases the price of medicines, restricting access to healthcare for the world’s poorer patients and creating insurmountable public welfare costs for developing nations. **The main fear of critics is that RDP will drive up healthcare costs to unsustainable levels by prolonging the period of market exclusivity enjoyed by biologic drugs. However, research from Geneva Network suggests that such fears are ungrounded**. **Analysing the examples of Canada and Japan, which have both lengthened their respective terms of RDP in recent years, shows that state expenditure on pharmaceuticals as a percentage of GDP remained pretty much flat in the years preceding and following the change**. **Moreover, any consideration of the costs associated with longer RDP periods should also take into account the value they add in regards to long-term investment in, and availability of, treatments**. The implementation of an RDP framework may even encourage more innovation, suggests Lybecker: “Regulatory data protection provides an additional form of IP protection and will delay biosimilar firms from bringing their product to market unless they generate their own preclinical and clinical safety and efficacy data.” While RDP may extend the period of time in which biologic drugs do not face biosimilar competition, several additional elements must be weighed against this effect, she adds. “First, **data exclusivity incentivises innovation which results in the development of biologic treatments and cures that might not otherwise come into existence. Second, these medicines provide significant benefits to patients, both improving and extending their lives. This results in healthier individuals and cost savings to healthcare systems.”** Source: ‘Will increasing the term of data exclusivity for biologic drugs in the TPP reduce access to medicines?’ Philip Stevens, Geneva Network, July 2015 Refraining from granting an innovator an RDP period may lead to much cheaper versions of the same drug arriving on the market more quickly. But this would only be a short-term benefit – and would be shortsighted too, Lasersohn suggests. “**Data exclusivity may raise the cost of a particular drug,” he says. “But I think ‘supports the price’ is the better way to put it. It doesn’t raise prices above a natural level, but rather supports the price that the market should pay for the investment of time and money that has gone into the development of the drug.”** Without the availability of IP rights like RDP in the biotech space, there wouldn’t be any drugs to begin with, he concludes. “**The reality is that VCs are not required by law to invest in biotech.** We could invest in social media and smartphone apps instead. But as a society, it is probably more important that we are able to fund the next Herceptin, rather than the next WhatsApp.”

**There’s no relation between data exclusivity and high prices – Canada and Japan prove**

Philip **Stevens 15** [Director of the Geneva Network, a research and advocacy organization working on international health, trade, and intellectual property issues. Will Increasing the Term of Data Exclusivity for Biologic Drugs in the TPP Reduce Access to Medicines?, Center for Intellectual Property x Innovation Policy (8-6-2015) https://cip2.gmu.edu/2015/08/06/will-increasing-the-term-of-data-exclusivity-for-biologic-drugs-in-the-tpp-reduce-access-to-medicines/]//anop

Like several TPP countries, the governments of **Canada and Japan have national health insurance systems, and cover most health care costs, including medicines.** Unlike other TPP countries, **Canada and Japan have in the past decade adopted substantially longer terms of RDP.** Their experiences, captured in the data provided below, show that **expenditures on medicines did not change appreciably from previous trends**. In **2006 Canada changed its regulations in a way that effectively increased their RDP term from 0 years to 8 years**. As shown in Figure 1 ( based on 2014 OECD data ), **pharmaceutical spending as a percentage of total health spending has actually decreased since then.** As indicated in Figure 2 below, over the same period (2005-2011) pharmaceutical expenditure as a percentage of GDP (blue bars) remained relatively stable after RDP was increased in Canada in 2006, whereas overall health spending as a percentage of GDP in Canada has gradually increased (red bars). **Similarly, Japan increased data protection in 2007 from 6 to 8 years (effectively 9 yearsiv). As indicated by Figure 3, fluctuations in expenditures after that time have been in line with growth in health care spending as a percentage of GDP. In fact, in 2010 pharmaceutical spending decreased in a year where health care spending increased. Figure 4 shows that the gradual increases in pharmaceutical expenditure as a percentage of GDP in Japan between 2005 and 2010 (blue bars) was in line with the overall increase in health spending as a percentage of GDP in Japan over the same period (red bars). The past experiences of Canada and Japan described above indicate that increases in RDP terms do not result in meaningful increases in health care expenditures or expenditures on medicines relative to overall health care spending. There could be many explanations for this result, ranging from changes in procurement policies, to increases in the number of medicines whose patent terms have expired**. The evidence presented above, however, suggests that those concerned about access to medicines and the financial sustainability of public healthcare systems should focus their attention on policies other than Regulatory Data Protection for medicines.

**AT: Nuke Winter**

1. **Airburst and low yield solve**

Keir A. **Lieber and** Daryl G. **Press 9** {Keir Lieber is Director of the Security Studies Program and Associate Professor in the Edmund A. Walsh School of Foreign Service at Georgetown University. He holds a joint appointment in the Department of Government. Daryl Press received his PhD from the Massachusetts Institute of Technology. His research focuses on international security and U.S. foreign policy. December 2009. “The Nukes We Need: Preserving the American Deterrent.” https://www.jstor.org/stable/20699714?seq=1#page\_scan\_tab\_contents}//JM

To illustrate the growth in U.S. counterforce capabilities, we applied a set of simple formulas that analysts have used for decades to estimate the effectiveness of counterforce attacks. We modeled a U.S. strike on a small target set: 20 intercontinental ballistic missiles (icbms) in hardened silos, the approximate size of China's current long range, silo-based missile force. The analysis compared the capabilities of a 1985 Minuteman icbm to those of a modern Trident II submarine launched ballistic missile.1 In 1985, a single U.S. icbm warhead had less than a 60 percent chance of destroying a typical silo. Even if four or five additional warheads were used, the cumulative odds of destroying the silo would never exceed 90 percent because of the problem of "fratricide," whereby incoming warheads destroy each other. Beyond five warheads, adding more does no good. A probability of 90 percent might sound high, but it falls far short if the goal is to completely disarm a 90 percent chance of destroying each target, the odds of destroying all 20 are roughly 12 percent. In 1985, then, a U.S. icbm attack had little chance of destroying even a small enemy nuclear arsenal. Today, a multiple-warhead attack on a single silo using a Trident II missile would have a roughly 99 percent chance of destroying it, and the probability that a barrage would destroy all 20 targets is well above 95 percent. Given the accuracy of the U.S. military's current delivery systems, the only question is target identification: silos that can be found can be destroyed. During the Cold War, the United States worked hard to pinpoint Soviet nuclear forces, with great success. Locating potential adversaries' small nuclear arsenals is undoubtedly a top priority for U.S. intelligence today. The revolution in accuracy is producing an even more momentous change: it is becoming possible for the United States to conduct low yield nuclear counterforce strikes that inflict . A U.S. Department or Defense computer model, called for the United States to tne Hazard Prediction and Assessment Conduct nuclear Strikes Capability (hpac), estimates the dispersion of deadly radioactive fallout in a given region that inflict relatively few after a nuclear detonation. The software uses Casualties. the warhead's explosive power, the height of the burst, and data about local weather and demographics to estimate how much fallout would be generated, where it would blow, and how many people it would injure or kill. Hpac results can be chilling. In 2006, a team of nuclear weapons analysts from the Federation of American Scientists (fas) and the Natural Resources Defense Council (nrdc) used hpac to estimate the consequences of a U.S. nuclear attack using high-yield warheads against China's icbm field. Even though China's silos are located in the countryside, the model predicted that the fallout would blow over a large area, killing 3-4 million people. U.S. counterforce capabilities were useless, the study implied, because even a limited strike would kill an unconscionable number of civilians. But the United States can already conduct nuclear counterforce strikes at a tiny fraction of the human devastation that the fas/nrdc study predicted, and small additional improvements to the U.S. force could dramatically reduce the potential collateral damage even further. The United States' nuclear weapons are now so accurate that it can conduct successful counterforce attacks using the smallest-yield war heads in the arsenal, rather than the huge warheads that the fas/nrdc simulation modeled. And to further reduce the fallout, the weapons can be set to detonate as airbursts, which would allow most of the radiation to dissipate in the upper atmosphere. We ran multiple hpac scenarios against the identical target set used in the fas/nrdc study but modeled low-yield airbursts rather than high-yield groundbursts. **The fatality estimates plunged from 3-4 million to less than 700** a figure comparable to the number of civilians reportedly killed since 2006 in Pakistan by U.S. drone strikes. One should be skeptical about the results of any model that depends on unpredictable factors, such as wind speed and direction. But in the scenarios we modeled, the area of lethal fallout was so small that very few civilians would have become ill or died, regardless of which way the wind blew. Critics may cringe at this analysis. Many of them, understandably, say that nuclear weapons are and should remain unusable. But if the United States is to retain these weapons for the purpose of deterring nuclear attacks, it needs a force that gives U.S. leaders retaliatory options they might actually employ. If the only retaliatory option entails killing millions of civilians, then the U.S. deterrent will lack credibility. Giving U.S. leaders alternatives that do not target civilians is both wise and just

1. **Best climate simulations**

**Reisner et al. 18** (Jon Reisner – Climate and atmospheric scientist at the Los Alamos National Laboratory. Gennaro D’Angelo – Climate scientist at the Los Alamos National Laboratory, Research scientist at the SETI institute, Associate specialist at the University of California, Santa Cruz, NASA Postdoctoral Fellow at the NASA Ames Research Center, UKAFF Fellow at the University of Exeter. Eunmo Koo - Scientist at Applied Terrestrial, Energy, and Atmospheric Modeling (ATEAM) Team, in Computational Earth Science Group (EES-16) in Earth and Environmental Sciences Division and Co-Lead of Parallel Computing Summer Research Internship (PCSRI) program at the Los Alamos National Laboratory, former Staff research associate at UC Berkeley. Wesley Even - Computational scientist in the Computational Physics and Methods Group at Los Alamos National Laboratory. Matthew Hecht – Atmospheric scientist at the Los Alamos National Laboratory. Elizabeth Hunke - Lead developer for the Los Alamos Sea Ice Model (CICE) at the Los Alamos National Laboratory responsible for development and incorporation of new parameterizations, model testing and validation, computational performance, documentation, and consultation with external model users on all aspects of sea ice modeling, including interfacing with global climate and earth system models. Darin Comeau – Climate scientist at the Los Alamos National Laboratory. Randy Bos - Project leader at the Los Alamos National Laboratory, former Weapons Effects program manager at Tech-Source. James Cooley – Computational scientist at the Los Alamos National Laboratory specializing in weapons physics, emergency response, and computational physics. <MKIM> “Climate impact of a regional nuclear weapons exchange:An improved assessment based on detailed source calculations”. 3/16/18. DOA: 7/13/19. <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2017JD027331>)

To quantitatively account for natural and forced variability in the climate system, we created two ensembles, one for the natural, unforced system and a second ensemble using a range of realistic vertical profiles for the BC aerosol forcing, consistent with our detailed fire simulation. The control ensemble was generated using small atmospheric temperature perturbations (Kay et al., 2015). Notably, the overall spread of anomalies in both ensembles is very similar. These ensembles were then used to create “super ensembles” using a statistical emulator, which allows a robust statistical comparison of our simulated results with and without the carbon forcing. Our primary result is the **decreased impact on global climate indices**, such as global average surface temperature and precipitation, relative to standard scenarios considered in previous work (e.g., Robock et al., 2007a; Stenke et al., 2013; Mills et al., 2014; Pausata et al., 2016). With our finding of **substantially less BC aerosol being lofted to stratospheric heights** (e.g., over a factor of four less than in most of the scenarios considered by previous studies), these globally averaged anomalies drop to **statistically insignificant levels** after the first several years (Figures 14 and 16). Our results are generally comparable to those predicted by other studies that considered exchange scenarios in which only about 1 Tg of soot is emitted in the upper troposphere (Robock et al., 2007a; Mills et al., 2008; Stenke et al., 2013). There are more subtle suggestions of regional effects, notably in the extent of the region over which sea surface temperature differences between ensembles remain significant in the final years of simulation (Figure 17). Further work is required to adequately analyze these and other potential regional effects. Historical analysis of several large volcanic eruptions and a recent large fire also supports this result. For example, Timmreck et al. (2010) claim that nonlinear aerosol effects of the Toba Tuff eruption 74,000 years ago helped **limit significant global cooling** impacts to a **two-year time period** and that any cooling beyond this time period could be due to other effects. It should be noted that this eruption was estimated to have produced **106 Tg** of ash and comparable amounts of other gases, such as sulfur dioxide (SO2), while the estimated amount of soot produced by a regional exchange is on the order of **10 Tg**, or **5 orders of magnitude smaller than the ash** (not including gases) **produced by the Toba eruption**. Noting that a nuclear exchange is not identical to volcanic events, it has been asserted that BC particles produced by fires should have a **greater impact on absorbing solar radiation** than even has the significantly larger amounts of ash and various gases produced by large eruptions (e.g., Robock and Toon 2010). Likewise, recent work in analyzing BC emissions from large fires suggests that in such fires, similar to large volcanic eruptions, **coating of soot particles with other particles** in convective eddies **tends to increase their size and hence increase their subsequent rainout** (China et al., 2013) before they can reach the stratosphere. In fact, the recent study of Pausata et al. (2016) found that growth of BC aerosol via coagulation with organic carbon significantly reduce the particles’ lifetime in the atmosphere.

**Water War**

[1] alt c auses ab Palestine relations too which hteh pla cannot resolve

**[2] Adaptation solves**

**Gleick 18** [Peter Gleick, MacArthur “Genius” Fellowship and was elected to the U.S. National Academy of Sciences, world-renowned expert, innovator, and communicator on water and climate issues, cofounded the Pacific Institute, which he led as president until mid-2016, pHd from UC Berkeley, and Charles Iceland, s Director, Global and National Water Initiatives with WRI’s Food, Forests, and Water Programs, “Water, Security, & Conflict”, https://pacinst.org/wp-content/uploads/2018/08/Water-Security-and-Conflict\_Aug-2018-2.pdf]

Although water risks are growing worldwide, there are many risk-reducing options available to decision-makers. Some of these options include **imposing water demand caps** in water-stressed regions; replacing water-inefficient irrigation schemes with more efficient irrigation technologies (irrigation accounts for 70 percent of water withdrawals worldwide); planting water-efficient and drought-resistant crops; introducing social safety net programs; reducing global food loss and waste; reducing population growth rates; implementing urban water conservation measures; investing in wastewater treatment and reuse technologies; engaging in negotiation of watershed agreements; improving water data and information systems; investing in dams, dikes, and levees; protecting and restoring natural capital, including forests and wetlands; and helping countries strengthen their governance systems.

**Russia**

#### US would first strike - we ll read ev later on it and NONE OF THEIR EV abt regional spill over epxlaisn why Russia first strieks which takes out their case answer

**Russia is modernizing to Surprise nuclear HEMP attack the United States**

Peter **Pry 1-25** (Peter Vincent Pry served on the staffs of the Commission to Assess the Threat to the United States from Electromagnetic Pulse Attack, the U.S. House Armed Services Committee, and the Central Intelligence Agency. He currently is director of the U.S. Nuclear Strategy Forum and president of EMPACT America, “The Russian Federation’s Military Doctrine, Plans, and Capabilities for Electromagnetic Pulse (EMP) Attack” WVW Broadcast Network, 1-25-21, https://www.worldviewweekend.com/news/article/russian-federations-military-doctrine-plans-and-capabilities-electromagnetic-pulse-emp)//babcii

“Super-EMP is a…first-strike weapon,” according to Aleksey Vaschenko, who describes Russian nuclear weapons specially designed to make extraordinarily powerful EMP fields as Russia’s means for defeating the United States in “A Nuclear Response To America Is Possible”: “The further direction of the work on the development of Super-EMP was associated with the increase of its kill effect by focusing Y-radiation, which should have resulted in an increase of the pulse’s amplitude. These properties of Super-EMP make it a first strike weapon, which is designed to disable the state and military command and control system, the economy, ICBMs, especially mobile based ICBMs, missiles on the flight trajectory, radar sites, spacecraft, energy supply systems, and so forth. So, Super-EMP is obviously offensive in nature and is a destabilizing first-strike weapon…The Russian nuclear component relies on the Super-EMP factor, which is the Russian response to U.S. nuclear blackmail.” Hypersonic Warheads: New HEMP Threat Russian development of hypersonic missile warheads is a dangerous new dimension of the nuclear and HEMP threat. Great speed (Mach 20, twenty times the speed of sound) and flying a flat trajectory, skimming along the top of the upper atmosphere, significantly reduces visibility to U.S. early-warning satellites and radars, while

also reducing arrival time. Maneuvering makes hypersonic warheads more difficult to track and intercept, virtually impossible to intercept with existing U.S. National Missile Defenses. Former senior Defense Department official Dr. Mark Schneider writes, “The main reason for Russian hypersonic missiles is a nuclear surprise attack and America has no defense against it.” Four-star General John Hyten, then chief of the U.S. Strategic Command that controls the nuclear Triad (now Vice Chairman Joint Chief of Staff), agrees with Schneider: “Hypersonic capabilities are a significant challenge. We are going to need a different set of sensors to see hypersonic threats. Our enemies know that.” Russia deployed its first regiment of SS-19 ICBMs armed with hypersonic Avangard nuclear warheads at the end of December 2019. Hypersonic vehicles fly over most of their trajectory at 50-100 kilometers altitude: the optimum height-of-burst for Super-EMP warheads. Hypersonic weapons are potentially a new avenue for surprise nuclear HEMP attack that could defeat deterrence. We cannot see the attack coming and may not know against whom to retaliate, especially if HEMP attack blinds satellites and radars needed for early-warning and threat assessment. Hypersonically delivered HEMP attack could win World War III with a single electronic blow.

**That ionizes Van Allen belts and destroys all SATS**

Peter **Pry 20** (Peter Vincent Pry served on the staffs of the Commission to Assess the Threat to the United States from Electromagnetic Pulse Attack, the U.S. House Armed Services Committee, and the Central Intelligence Agency. He currently is director of the U.S. Nuclear Strategy Forum and president of EMPACT America, “Have Russia And China Already 'Militarized' Space?”, Real Clear Defense, July 16, 2020, https://www.realcleardefense.com/articles/2020/07/16/have\_russia\_and\_china\_already\_militarized\_space\_115469.html)//babcii

HEMP and SGEMP High-altitude EMP (HEMP) from a nuclear detonation in space propagates downward through the atmosphere, not through the vacuum of space, so no Russian or PRC satellites would be at risk from HEMP, unless the HEMP field is over China or Russia so satellite ground stations could be damaged—a highly unlikely scenario, that Moscow or Beijing would make a HEMP attack on themselves. Satellites are at risk from an exo-atmospheric detonation for HEMP from the gamma rays. If they reach the satellite and are close enough, they can damage satellites by a phenomenon called System Generated EMP (SGEMP).[[xiv]](https://www.realcleardefense.com/articles/2020/07/16/have_russia_and_china_already_militarized_space_115469.html" \l "_edn14) But Russia and China have almost certainly hardened their satellites against SGEMP and other phenomena that might be generated by the worst-case SGEMP threat they plan to employ: a Super-EMP weapon which is designed specifically to produce powerful gamma rays. The U.S. hardens military satellites against SGEMP too, but probably not against the SGEMP produced by Super-EMP weapons, as the U.S. has no Super-EMP weapons. The U.S. does not even have simulators for Super-EMP weapons to test against this threat. China and Russia can further protect their LEO satellites (those most at risk) from SGEMP by timing the HEMP attack so their satellites are over-the-horizon and will not be illuminated by gamma rays. An exo-atmospheric nuclear detonation for HEMP can also damage

LEO satellites

by “pumping” the Van Allen belt with ionized particles, as happened after the 1962 STARFISH PRIME high-yield exo-atmospheric nuclear test that inadvertently damaged U.S. satellites.[[xv]](https://www.realcleardefense.com/articles/2020/07/16/have_russia_and_china_already_militarized_space_115469.html" \l "_edn15) Satellites can be hardened to survive this environment too, and presumably would be if HEMP attack is an important military option, as it is for Russia and China. Ionization of the Van Allen belt is a much bigger threat to LEO satellites if the HEMP attack uses a high-yield weapon detonated above 100 kms HOB—and this too is another way of using a nuclear detonation in space to sweep the skies of U.S. satellites.

**Increased ionizaiton prevents space col**

Daniel **Baker 14**, Director of the Laboratory for Atmospheric and Space Physics, as well as a professor in atmospheric and planetary sciences, and in physics, at the University of Colorado-Boulder, "New Twists in Earth's Radiation Belts," American Scientist, 2014, https://www.americanscientist.org/article/new-twists-in-earths-radiation-belts.

The satellite carried a pioneering scientific payload, prepared at the State University of Iowa by a team of researchers led by James A. Van Allen. And the instruments on Explorer I made the first revolutionary discovery of the Space Age: Earth is enshrouded in doughnut-shaped rings, or toroids, of high-energy, high-intensity radiation. The discovery of those radiation belts—now called the Van Allen belts—revealed how Earth’s magnetic field interacts with the space environment around it. The field, generated by Earth’s molten metallic core and planetary spin, creates the magnetosphere, a magnetic bubble surrounding the planet; the size and shape of the magnetosphere change in response to the blowing of the solar wind, the constant stream of charged particles flowing from the Sun. The magnetosphere is crucial to life on Earth; it shields the atmosphere, as well as life on the surface, from damage by the solar wind and by even more energetic cosmic rays. But close in, Earth’s magnetic field lines trap and accelerate free-floating particles, largely protons and electrons, and bounce them back and forth between the poles of the planet. Those zones of trapped, agitated particles make up the Van Allen belts that Explorer I flew through. It was discovered that the belts took the form of two concentric rings: The inner belt extends from an altitude of about 1,000 to 6,000 kilometers above Earth, whereas the outer belt spans from about 13,000 to 60,000 kilometers. Earth’s Van Allen belts are imperfect shields, however. High-speed particles can leak from the belts and collide with molecules in the atmosphere, giving rise to aurora displays. If there is a major magnetic eruption on the Sun, the resulting outrush of particles may break through the outer magnetosphere and overload the Van Allen belts in more destructive ways. The rapid injection of particles into the belts can damage the circuitry and solar panels on satellites in orbit; swarms of protons and electrons released when solar wind particles crash into the atmosphere induce electrical currents that can overload terrestrial power systems and cause blackouts. Almost exactly a century preceding the Explorer I launch, on the night of August 28 to 29, 1859, people around the world got to witness what happens when an enormous solar storm overwhelms Earth’s magnetosphere. The New York Times reported that thousands of New Yorkers watched “the heavens…arrayed in a drapery more gorgeous than they have been for years.” An even more spectacular aurora display occurred on September 2, when the sky lit up as far south as Central America in the Northern Hemisphere. Disturbances in Earth’s magnetic field were so powerful

that magnetometer readings were driven off their scales. Telegraph networks were unusable for nearly eight hours in most parts of the world due to high-energy particles in the atmosphere. In several regions, operators reported that their telegraphs were sparking from the electrical current induced by the aurora. Earth had experienced a one-two punch of solar storms the likes of which have not been recorded since. Humanity was just beginning to develop electrical technology in 1859. There were no high-power electrical lines crisscrossing the continents, nor were there sensitive satellites orbiting Earth. In 1989, just before the rise of the Internet and GPS systems, a smaller but still potent solar storm demonstrated the heightened risk. The 1989 storm induced huge ground currents that knocked out Quebec’s electrical power grid and caused problems at 200 sites in the United States, particularly in regions situated on igneous rock because it resists conduction and therefore flows current into nearby wires. If another solar event like the one in 1989 happened today it could disrupt global communications, causing chaos for days. Another 1859-style superstorm could knock out some power grids and communications networks for weeks or more. Our Sun operates on an 11-year cycle of activity, and today it is near the maximum of that pattern, meaning it could at any time produce large-scale events. In mid-July 2012, a solar storm of immense power narrowly missed the Earth; had it happened a week earlier, the planet might have been in the direct path of the blast. My colleagues and I are vigorously pursuing studies of space storms and the changes in our near-Earth space environment, which we lump under the term space weather. There is a pressing need for our technological society to understand in ever better detail the workings of the space environment around us. A clearer picture of the dynamics of the Van Allen belts is one important piece of this puzzle. Space Storm Damage What happens to satellites during space storms is of great practical importance. After the pioneering work of Van Allen and his coworkers in the United States, along with their counterparts in the Soviet Union, there was an explosion of interest in the use of space for human needs. Over just a few years in the late 1950s and early 1960s, space hardware went from technological demonstration and scientific curiosity to full-fledged societal imperatives. Earth satellites were launched into space to meet needs for communication, navigation, weather observations, remote Earth sensing, and military reconnaissance. Today the Earth is circled by spacecraft from just above our atmosphere to distances of tens of thousands of kilometers above Earth’s surface. It would be almost inconceivable to try to imagine our modern U.S. society without the capabilities provided by spacecraft systems. But any of the many hundreds of spacecraft operating in Earth orbits today can be damaged by space radiation if the circumstances are right. In 2003, 46 of the 70 satellite failures reported that year occurred during a geomagnetic storm in October. When high-energy protons and other ions hit orbiting spacecraft, they often leave ionization tracks in electronic chips. These tracks can upset spacecraft computer memories and otherwise disrupt sensitive electronics. As a result, satellite solar power panels may be damaged, optical tracker systems may become confused, and spacecraft command-and-control software may be scrambled. High-energy protons and ions may also injure, and potentially kill, astronauts who are in space during a major solar particle event. Manned launches have had to be rescheduled as a result, a major obstacle to long missions such as ones that might go to Mars. The high-energy protons in the inner Van Allen zone are especially a continuing risk to satellites and humans alike. Energetic electrons in the space environment can also be devastating to spacecraft. They can readily penetrate even thick spacecraft shielding and bury themselves in insulating materials, such as coaxial cables or electronics boards, deep within spacecraft systems. As charge builds up in the insulating materials, a powerful internal electrical discharge can occur, much like a miniature lightning strike. Numerous recent spacecraft failures have been attributed to this mechanism. Another space weather effect is known as surface charging. Lower energy electrons cannot penetrate the shielding but can accumulate on insulating satellite surfaces. As with interior insulators, charge buildup on the surface may lead to a powerful, disruptive discharge, generating electrical signals in the spacecraft’s vicinity that can scramble and disorient the satellite and its subsystems. A Third Belt In light of the world’s dependence on Earth-orbiting platforms, it must be realized that every one of these spacecraft fly through—essentially continuously—the high-energy radiation environment that Van Allen’s group discovered over five decades ago. Thus, one of the most enduring and persistent aspects of space weather is the hostile radiation belts girding the Earth. Probes have returned data showing that the Van Allen belts wax and wane in intensity, depending on both local conditions and Sun activity. Even 50-plus years after their discovery, we still need a deeper and more insightful comprehension of the Van Allen belts’ behavior.