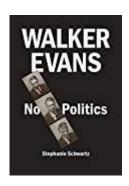
H-Net Reviews in the Humanities & Social Sciences

Ankit Panda. *Kim Jong Un and the Bomb: Survival and Deterrence in North Korea.* New York: Oxford University Press, 2020. xv + 393 pp. \$27.95, cloth, ISBN 978-0-19-006036-7.



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Published on H-War (January, 2022)

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Nuclear weapons provide tremendous destructive power for the relatively few nations that possess them. However, nations like the United States and Russia maintain enough civilizationending capability within each arsenal to deter nuclear-armed competitors, and in North Korea, nuclear weapons ensure regime longevity and provide security against regime change from outside adversaries. In Kim Jong Un and the Bomb: Survival and Deterrence in North Korea, Ankit Panda presents the in-depth history of North Korea's growing nuclear program that started in the 1970s, the perceived security goals that the nuclear weapons program provides, and especially the reasons these weapons assure Kim's legacy as North Korea's supreme leader. Panda notes that "Kim's project is to ensure his self-reliant survival, and central to this strategic vision is the perfection of a robust, diverse, and sufficiently large nuclear force, as well as the augmentation of North Korea's status on the international stage" (p. 31). This assertion captures the often-misunderstood reasoning of North Korea's drive to nuclear weapon mastery.

In part 1, Panda explains the family legacy and timeline of Kim becoming the supreme leader of North Korea. This is important because it gives perspective on the protective need to secure familial transition from Kim Il Sung to Kim Jong Il and finally to a young Kim Jong Un. Furthermore, we see how each leader has viewed North Korean nuclear needs and the resulting burden in developing nuclear weapons. The transitional periods also parallel the timeline from early attempts at nuclear development in the late 1970s under Kim Il Sung to Kim Jong Un's numerous underground nuclear weapons testing programs and ballistic missile development, which the regime believes will provide strength should confrontation with the United States occur.

Throughout the second part, Panda provides essential details on the technical aspects of the North Korean nuclear program. The clear evidence presented starts with an in-depth discussion

of North Korean nuclear weapon designs and the technical aspects of individual weapons since the first known test in 2007. Also woven into this part of Panda's narrative are the actors who have contributed to North Korea's clandestine development program since its inception. For example, Panda refers to Pakistan's A. Q. Khan as "the world's most notorious known proliferation network" and explains that North Korea would not have achieved its position of nuclear strength as quickly without his expertise (p. 103). Especially relevant to later reading is that most of its weapons development program has continued to occur while under considerable economic sanctions and international pressure. Clearly, Panda's narrative shows that these sanctions have had little impact on the weapons development process.

As readers learn of North Korea's ambition to join the group of recognized nuclear-armed states, it is essential to appreciate its weapons-grade nuclear material manufacturing capability. The importance of the Yongbyon nuclear complex and its ability to produce weapons-grade plutonium has gained considerable attention concerning North Korea's internal production capability. Ominously, Panda describes that Yongbyon is undoubtedly not the only nuclear facility producing fissile material. Another more modern production capability exists in Kangson, where centrifuges are believed to have "twice that of Yongbyon" (p. 112). Ultimately, it becomes clear that while monitoring Yongbyon, the North Korean nuclear weapons program has been quietly hard at work elsewhere.

The main topic for consideration in part 2 is North Korean ballistic missile development and the technology required to launch and control armed nuclear missiles. The reader learns that North Korea has used considerable economic resources to develop and test multiple missile delivery systems. This vital discussion carries the reader through early developmental failures of adapting liquid-fueled conventional rockets to modern solid-fueled mobile ballistic missiles with increas-

ing range. Ultimately, he states that North Korea can accurately attack the US territory of Guam and now reach the US mainland. In a well-explained building block approach, the reader will understand how North Korea built its nuclear material and developed its delivery systems for these cherished weapons.

Finally, Panda's description of the risk of unintentional nuclear weapon use within North Korea is certainly noteworthy. In addition, he describes the potential of limited safety assurances and particular challenges with command and control. Panda's description makes a rational argument that the world must immediately work to deter further nuclear weapons development in North Korea. Meanwhile, it will be vital to work with them to understand the safe limits and implementation of controls to the newly formed nuclear power to prevent an accident that could spiral out of control.

Throughout my reading of Panda's work, I was struck by the realization that North Korea is not simply preparing to become armed with tremendous destructive power but that it genuinely is armed and appears to remain committed to continuing refinement of critical systems to deliver lethal weapons to North America. His well-written description of North Korea's nuclear weapons program provides an insightful look at this strategic problem now faced by the US on the Korean Peninsula and an in-depth understanding for those interested in the world's latest nuclear-armed nation.

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Citation: Gordon Vincent. Review of Panda, Ankit. *Kim Jong Un and the Bomb: Survival and Deterrence in North Korea.* H-War, H-Net Reviews. January, 2022.

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