

References

Aktuell

BERRY 2021

Christopher R. Berry, Anthony Fowler, Tamara Glazer, Samantha Handel-Meyer & Alec MacMillen, *Evaluating the effects of shelter-in-place policies during the COVID-19 pandemic*. [PNAS 118 \(2021\), e2019706118](#). DOI:10.1073/pnas.2019706118.

[pnas118-e2019706118-Supplement.pdf](#)

We estimate the effects of shelter-in-place (SIP) orders during the first wave of the COVID-19 pandemic. We do not find detectable effects of these policies on disease spread or deaths. We find small but measurable effects on mobility that dissipate over time. And we find small, delayed effects on unemployment. We conduct additional analyses that separately assess the effects of expanding versus withdrawing SIP orders and test whether there are spillover effects in other states. Our results are consistent with prior studies showing that SIP orders have accounted for a relatively small share of the mobility trends and economic disruptions associated with the pandemic. We reanalyze two prior studies purporting to show that SIP orders caused large reductions in disease prevalence, and show that those results are not reliable. Our results do not imply that social distancing behavior by individuals, as distinct from SIP policy, is ineffective.

Keywords: COVID-19 | shelter-in-place policies | mobility | disease spread | government policy

Significance: We study the health, behavioral, and economic effects of one of the most politically controversial policies in recent memory, shelter-in-place orders during the COVID-19 pandemic. Previous studies have claimed that shelter-in-place orders saved thousands of lives, but we reassess these analyses and show that they are not reliable. We find that shelter-in-place orders had no detectable health benefits, only modest effects on behavior, and small but adverse effects on the economy. To be clear, our study should not be interpreted as evidence that social distancing behaviors are not effective. Many people had already changed their behaviors before the introduction of shelter-in-place orders, and shelter-in-place orders appear to have been ineffective precisely because they did not meaningfully alter social distancing behavior.

CASTRO 2021

Marcia C. Castro & Burton Singer, *Prioritizing COVID-19 vaccination by age*. [PNAS 118 \(2021\), e2103700118](#). DOI:10.1073/pnas.2103700118.

When vaccine efficacy decline[s] from 59 or 69 y onward, prioritizing all adults or those aged 20 to 49 y would achieve a larger reduction, albeit by a small margin. [...] The years saved drops considerably (gray region in Fig. 1B), but prioritizing the elderly would still maximize lives and years of life saved.

COHEN 2021

Jon Cohen, *The Dream Vaccine*. [science 372 \(2021\), 227–231](#). DOI:10.1126/science.372.6539.227.

Why stop at just SARS-CoV-2? Vaccines in development aim to protect against many coronaviruses at once.

KUPFERSCHMIDT 2021

Kai Kupferschmidt & Gretchen Vogel, *Vaccine link to serious clotting disorder firms up.* [science](#) **372** (2021), 220–221. DOI:10.1126/science.372.6539.220.

Rare symptoms seen in AstraZeneca recipients occur after Johnson & Johnson shot as well.

For Vaxzevria, Greinacher and his collaborator Rolf Marschalek, a molecular biologist at Frankfurt University, are calling for tests of a simple solution: halving the dose. In AstraZeneca’s phase 3 trial in the United Kingdom, a small number of people accidentally received a lower dose and had fewer side effects in general; perhaps a reduced dose is also less likely to trigger the kind of strong inflammation that boosts PF4 antibodies, the researchers say. And unexpectedly, those people were slightly better protected, perhaps because high levels of inflammation can actually block the formation of antibodies. Part of the problem might be that they just overdosed the vaccine, Greinacher says. That remains to be seen, Cox cautions. But if the hunch proves correct, what looked like a terrible blow for one of the world’s most important weapons against the pandemic might be good news in disguise: Supplies of the vaccine could protect twice as many people—with fewer side effects.

LEDFORD 2021

Heidi Ledford, *Scientists Probe How a Covid Vaccine Could Cause Blood Clots.* [nature](#) **592** (2021), 334–335.

Researchers are studying possible links between rare clots and the Oxford–AstraZeneca COVID-19 vaccine.

LYTHGOE 2021

Katrina A. Lythgoe et al., *SARS-CoV-2 within-host diversity and transmission.* [science](#) **372** (2021), eabg0821. DOI:10.1126/science.abg0821.s372-eabg0821-Supplement.pdf

Extensive global sampling and sequencing of the pandemic virus severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) have enabled researchers to monitor its spread and to identify concerning new variants. Two important determinants of variant spread are how frequently they arise within individuals and how likely they are to be transmitted. To characterize within-host diversity and transmission, we deep-sequenced 1313 clinical samples from the United Kingdom. SARS-CoV-2 infections are characterized by low levels of within-host diversity when viral loads are high and by a narrow bottleneck at transmission. Most variants are either lost or occasionally fixed at the point of transmission, with minimal persistence of shared diversity, patterns that are readily observable on the phylogenetic tree. Our results suggest that transmission-enhancing and/or immune-escape SARS-CoV-2 variants are likely to arise infrequently but could spread rapidly if successfully transmitted.

MALLAPATY 2021

Smriti Mallapaty, *What’s Next in the Search for Covid’s Origins.* [nature](#) **592** (2021), 337–338.

World Health Organization report makes a reasonable start, scientists say, but many questions remain.

The report concludes that the chances of the virus having originated in a lab accident are slim. But there is growing pressure, including some from researchers, for a more comprehensive inquiry into this possible route. WHO team members did

not have the required background to investigate a biosafety breach, says Filippa Lentzos, a biosecurity researcher at King's College London. Immunologist Nikolai Petrovsky at Flinders University in Adelaide, Australia, says that given the lack of evidence, the team "would have been best to have been silent on the question because, scientifically, we simply don't know".

Amerika

CAPRILES 2021

José M. Capriles et al., *Pre-Columbian transregional captive rearing of Amazonian parrots in the Atacama Desert*. [PNAS 118 \(2021\), e2020020118](#).

[pnas118-e2020020118-Supplement.pdf](#)

The feathers of tropical birds were one of the most significant symbols of economic, social, and sacred status in the preColumbian Americas. In the Andes, finely produced clothing and textiles containing multicolored feathers of tropical parrots materialized power, prestige, and distinction and were particularly prized by political and religious elites. Here we report 27 complete or partial remains of macaws and amazon parrots from five archaeological sites in the Atacama Desert of northern Chile to improve our understanding of their taxonomic identity, chronology, cultural context, and mechanisms of acquisition. We conducted a multiproxy archaeometric study that included zooarchaeological analysis, isotopic dietary reconstruction, accelerated mass spectrometry radiocarbon dating, and paleogenomic analysis. The results reveal that during the Late Intermediate Period (1100 to 1450 CE), Atacama oasis communities acquired scarlet macaws (*Ara macao*) and at least five additional translocated parrot species through vast exchange networks that extended more than 500 km toward the eastern Amazonian tropics. Carbon and nitrogen stable isotopes indicate that Atacama aviculturalists sustained these birds on diets rich in marine bird guano-fertilized maizebased foods. The captive rearing of these colorful, exotic, and charismatic birds served to unambiguously signal relational wealth in a context of emergent intercommunity competition.

Keywords: Atacama desert | exchange | feathers | relational wealth | tropical birds

José M. Capriles, Calogero M. Santoro, Richard J. George, Eliana Flores Bedregal, Douglas J. Kennett, Logan Kistler & Francisco Rothhammer

Significance: The brightly colored feathers of macaws, amazons, and other neotropical parrots were one of the most important symbols of wealth, power, and sacredness in the pre-Columbian Americas. Andean highland and coastal societies imported these exotic goods from Amazonian tropical forests by little-understood mechanisms of exchange. The study of 27 complete and partially mummified and skeletonized remains of at least six species of parrots from five archaeological sites in the Atacama Desert of northern Chile provides evidence that capturing, transporting, and keeping macaws, amazons, and conures as pets was part of this provisioning system, likely motivated by their significance for producing and representing relational wealth.

Anthropologie

CALLAWAY 2021

Ewen Callaway, *Oldest Human DNA Reveals Recent Neanderthal Mixing*. [nature 592 \(2021\), 339](#).

Ancient human lineages interbred commonly in Europe, as well as the Middle East.

GIBBONS 2021

Ann Gibbons, *DNA from cave dirt traces Neanderthal upheaval*. [science](#) **372** (2021), 222–223.

First nuclear DNA from sediment shows turnover, migration among ancient cave dwellers in Spain.

Archäologie

MURDOCK 1973

George P. Murdock & Caterina Provost, *Factors in the Division of Labor By Sex, A Cross-Cultural Analysis*. [Ethnology](#) **12** (1973), 203–225.

A division of labor between the sexes has long been recognized by economists, sociologists, and other behavioral scientists as (1) the original and most basic form of economic specialization and exchange, and as (2) the most fundamental basis of marriage and the family and hence the ultimate source of all forms of kinship organization. On the whole, however, scholars have focused their major attention on the consequences rather than the causes of the division of labor by sex, seeking, for example, to ascertain its bearing on such matters as the status of women and the forms of social organization. In the present paper the emphasis shifts to an inquiry into the factors governing the assignment of particular tasks to men or to women in the cultures of the world.

VEIT 2002

Ulrich Veit, *Vom Nutzen und Nachteil der Theorie für die Archäologie, Anmerkungen zur jüngeren deutschsprachigen Diskussion*. In: R. ASLAN, S. BLUM, G. KASTL, F. SCHWEIZER & D. THUMM (Hrsg.), *Mauerschau, Festschrift für Manfred Korfmann I. (Remshalden-Grünbach 2002)*, 38–55.

Bibel

BELLIS 2019

Alice Ogden Bellis et al., *Jerusalem's Survival, Sennacherib's Departure, and the Kushite Role in 701 BCE, An Examination of Henry Aubin's Rescue of Jerusalem*. [Journal of Hebrew Scriptures](#) **19** (2019), vii, 1–296.

1. Alice Ogden Bellis, Introduction
2. Alice Ogden Bellis, Report/Rumor
3. Marta Hoyland Lavik, Are the Kushites Disparaged in Isaiah 18?
4. Song-Mi Suzie Park, Egypt or God? Who Saved Judah from the Assyrian Attack in 701?
5. Christopher B. Hays, “Those Weaned from Milk”: The Divine Wet Nurse Motif in Isaiah 28's Ceremony for the Covenant with Mut.
6. Jeremy Pope, Sennacherib's Departure and the Principle of Laplace.
7. Aidan Dodson, The Rescue of Jerusalem: a View from the Nile Valley.

8. Lester L. Grabbe, *Israelite Interaction with Egypt During the Monarchy: A Context for Interpreting 2 Kings 19:8–13*.
9. Alan Lloyd, *The Siege of Jerusalem by Sennacherib*.
10. K. Lawson Younger, Jr., *Aubin's The Rescue of Jerusalem: An Assyriological Assessment*.
11. Henry T. Aubin, *Responses to Authors*

GERTZ 2018

Jan Christian Gertz, *Das erste Buch Mose – Genesis, Die Urgeschichte – Gen 1–11*. *Das Alte Testament Deutsch 1* (Göttingen ²2021).

HENDEL 2005

Ronald Hendel, *Genesis 1–11 and Its Mesopotamian Problem*. In: ERICH S. GRUEN (Hrsg.), *Cultural Borrowings and Ethnic Appropriations in Antiquity*. *Oriens et Occidens 8* (Stuttgart 2005), 23–36.

The Hebrew Bible acknowledges that Israel was a relative latecomer in the ancient Near East. The first era of human civilization was in the ancient east, in and around Mesopotamia. According to Israel's collective memory, the human ascent from nature to culture had to go through Mesopotamia. This temporal priority ought to have given Mesopotamia the glory of cultural origins. For latecomer Israel to be exalted, the temporal priority of Mesopotamia had to be depreciated. In Genesis 1–11 this Mesopotamian problem is addressed by various strategies, including appropriation, mimicry, and inversion, whereby Mesopotamia's priority is acknowledged but diminished, clearing the path for the ascent of Abraham and his descendants.

The history of Abraham is the link between the Mesopotamian past and the ascent of Israel. The chosen people come out of Ur, but they are not truly constituted until they come to the Promised Land (a journey they will collectively resume after the Exodus), separated from the corrupt civilizations of the pre-Israelite era. Israel's Mesopotamian problem is resolved by leaving Mesopotamia behind, and by construing the blessed era of human culture as beginning with Yahweh's call and blessing of Abraham. According to the Hebrew Bible, history comes out of Mesopotamia, but it was a dubious and shameful history until the call and migration of Abraham. However, as the Israelites knew well, Mesopotamian power did not remain in the distant past. Its empires held sway at the time the primeval stories in Genesis 1–11 were cast into writing. The ancient past in these stories offers implicit commentary on Mesopotamian civilization and empire in the present, colored by transgression, hubris, and a desire to rebel.

KAHN 2007

Dan'el Kahn, *Judean Auxiliaries in Egypt's Wars against Kush*. *Journal of the American Oriental Society* **127** (2007), 507–516.

It seems to me that Judean forces were sent to aid Psammetichus I only after the death of Manasseh and the retreat of the Assyrians from the Levant. If neither Zedekiah (595–589) nor Manasseh (697–642) sent Judean forces to aid Psammetichus I, does the Letter of Aristeas refer to Josiah? The exact date of the Assyrian withdrawal from the Levant is not known. It could be dated somewhere between 644, the year of Assyria's last recorded action in Phoenicia against Tyre and Acco (Borger 1996: 69) and 623 (Assyria's withdrawal according to Na'aman 1991: 264) or 616, when according to the Babylonian Chronicle, Egyptian forces campaigned in the Middle Euphrates region near Qablina (Wiseman 1956: 63, 67;

Grayson 1975: 90ff.). The latest date for the sending of Judean forces to aid Psammetichus I would be 610, the year of his death (Smith 1991: 101–9; cf. the date given by Hornung 1966: 38–39).

The armies of Josiah could have been mobilized to fight against Kush during his last years. The campaign against Kush mentioned in the Letter of Aristeas could be attributed to soldiers sent by Josiah, as vassal of Egypt, in the second part of the reign of Psammetichus I (between 640–610). The enmity between Egypt and Kush continued during the days of Necho II (610–595), Psammetichus I's successor, and culminated in the days of Psammetichus II.

KAHN 2008

Dan'el Kahn, *Some Remarks on the Foreign Policy of Psammetichus II in the Levant (595–589 B.C.)*. [Journal of Egyptian History 1 \(2008\), 139–157](#).

Since it is commonly held that Psammetichus II abstained from aggressive activity against Babylonia, I want to reconsider his policy (595–589 B.C.) toward the Levant and the Babylonian Empire.¹ No new data exists, leaving us only the (re)interpretation of the facts. In this article I shall review:

1. The Babylonian presence and activity in the Levant;
2. The anti-Babylonian conference in the fourth year of Zedekiah, King of Judah (most probably 593 B.C.);
3. Alleged Judean involvement in Psammetichus II's campaign against Kush;
4. Psammetichus II's campaign to Kush in his third year of reign (593 B.C.);
5. The Effect of the Egyptian Campaign to Kush on the Levant;
6. The campaign of Psammetichus to the land of Kharu in his fourth regnal year.

KAHN 2013

Dan'el Kahn, *Revisiting the Date of King Josiah's Death*. In: ALEJANDRO F. BOTTA (Hrsg.), *In the Shadow of Bezalel, Aramaic, Biblical, and Ancient Near Eastern Studies in Honor of Bezalel Porten*. [\(Leiden 2013\), 255–264](#).

The purpose of this article is to reconsider the date of King Josiah's death. It is divided into three sections: a short survey of the history of research; the relevance of Demotic Papyrus Berlin 13588 for the date of Psammetichus I's death and Necho's accession; and its significance for determining Egyptian-Judean Political Relations.

The death of Josiah at Megiddo in 609 BCE, not its reason, was the purpose of this article. Can the above-mentioned information help to illuminate events and reasons which led to the death of Josiah, King of Judah by Pharaoh Necho II? I will deal with the answer to this question in a forthcoming article.

KAHN 2015

Dan'el Kahn, *Why Did Necho II Kill Josiah?* In: JANA MYN-ÁŘOVÁ, PAVEL ONDERKA & PETER PAVÚK (Hrsg.), *There and Back Again – the Crossroads II, Proceedings of an International Conference Held in Prague, September 15–18, 2014*. [\(Prague 2015\), 511–528](#).

Therefore, Josiah did not go to fight Necho II at Megiddo, but he was an Egyptian vassal who tried to stretch the boundaries of freedom of action, trying the patience of the New Egyptian ruler, Necho II, a bit too much. It seems that Josiah underestimated the severity of his tax evading actions in the Egyptians' minds and thus was executed by beheading.

NA'AMAN 1991

Nadav Na'aman, *The Kingdom of Judah Under Josiah*. Tel Aviv: *Archaeology* 18 (1991), 3–71.

The author of the Book of Kings emphasized the scope of Josiah's actions in the fields of religion and cult, which won him an unprecedentedly favourable evaluation (probably awarded by a later editor): "Before him there was no king like him, who turned to the Lord with all his heart and with all his soul and with all his might, according to all the law of Moses; nor did any like him arise after him" (2 Kgs. 23:25). Studying the history of Josiah from an overall historical perspective, it seems that this evaluation is acceptable; even though his modest political and territorial achievements were wiped out by his death, his actions in the areas of religion and cult remained engraved in the hearts of his people for generations, and exerted considerable influence on the development of Judaism during the Babylonian exile and the Post-exilic period.

NA'AMAN 1995

Nadav Na'aman, *The Deuteronomist and Voluntary Servitude to Foreign Powers*. *Journal for the Study of the Old Testament* 65 (1995), 37–53.

There is a remarkable critical approach on the part of the deuteronomistic authors of the books of Kings (Dtr1 and Dtr2) towards the rulers in whose time Israel/Judah voluntarily became vassal to foreign powers. These rulers are Menahem and Ahaz whose reigns marked the beginning of Israel's and Judah's servitude to Assyria, and Jehoiakim, whose reign marked the beginning of Judah's vassalhood to Egypt and Babylonia. The critical attitude toward the three kings is expressed by a combination of open and hidden polemic. In marked contrast to these kings stands Hezekiah, who rebelled against Assyria and is treated favourably by the historians. The stand of the deuteronomistic historians reflects a kind of 'national' ideology which deeply influenced their depiction of all four kings.

RISTAU 2009

Kenneth A. Ristau, *Reading and Rereading Josiah, The Chronicler's Representation of Josiah for the Postexilic Community*. In: GARY N. KNOPPERS & KENNETH A. RISTAU (Hrsg.), *Community Identity in Judean Historiography, Biblical and Comparative Perspectives*. (Winona Lake 2009), 219–219.

The sophisticated structure and the multiple themes and motifs of the Josiah narrative point to a flexible interaction with the traditions that, in turn, expands the potential readings and rereadings in a process perhaps most akin to the homiletical traditions of contemporary Jewish and Christian communities. This didactic and kerygmatic quality of the text is the essence of its power and endurance. Through reading and rereading the Josiah narrative in Chronicles, and reading it to others, the community of the text advances and promotes its own ideals and values and receives encouragement in its present situation and future goals. By reading and rereading the Josiah narrative in Chronicles ourselves, we are able to identify these aspects of the text and at the same time identify some of the fears, anxieties, and insecurities of the community that the text attempts to overcome.

From the Josiah narrative, in particular, it is clear that the Chronicler and the primary community of the text are passionate Yahwists concerned with monotheistic worship centered in Jerusalem and its temple. They are interested in questions about leadership and temple organization and deeply concerned with the intersection of praxis and ideology in the cult and the life of the community. They

are a community often rapt by their insecurity and dependence on foreign powers, as expressed through the subtext of exile and judgment. However, despite these insecurities, they remain committed to a theological tradition, which they understand in continuity with the past communities that wrote and disseminated the Torah and also, though perhaps less deferentially, Samuel–Kings and other books of the Hebrew Bible. This continuity provides the community with its self-identity, its sense of purpose in the world, its source of joy, and also, as evident from the Josiah narrative, its validation of lament. In a world of tragedy, perhaps the last of these is one of the most important legacies of the Josiah narrative.

SCHIPPER 2010

Bernd U. Schipper, *Egypt and the Kingdom of Judah under Josiah and Jehoiakim*. *Tel Aviv: Archaeology* **37** (2010), 200–226.

Based on an evaluation of archaeological, epigraphic and egyptian material the article argues that in the final decades of the 7th century BCe (ca. 630) the egyptian pharaoh Psammetichus i filled the power vacuum created in the southern levant by the departure of the Assyrians. Presumably, after the march to the Tigris in 616, he established with the help of his Greek mercenaries an egyptian-controlled system of vassal-states with a fortress at Mehad Hashavyahu; a network of royal messengers; and the procedures for collecting taxes. In the last years of the reign of Psammetichus i, the Kingdom of Judah under Josiah became part of this egyptian ‘successor state’. Judah had to pay taxes and Judahites served the egyptian-Greek authority, which was probably a form of corvée. The egyptian interlude ends with the defeat of Necho ii in the Battle of Carchemish in 605 BCe, though the Greek mercenaries remained in the land, probably now in Judahite service under King Jehoiakim.

Keywords: Judah | Josiah | Jehoiakim | Psammetichus I | Necho II | Twenty-sixth Dynasty | Successor state | Greek mercenaries

TALSHIR 1996

Zipora Talshir, *The Three Deaths of Josiah and the Strata of Biblical Historiography, (2 Kings XXIII 29-30; 2 Chronicles XXXV 20-5; 1 Esdras I 23-31)*. *Vetus Testamentum* **46** (1996), 213–236.

There are three accounts of the circumstances surrounding Josiah’s death, and the relationship between them is a point of contention among scholars. The question has both historical and philological implications, although the one does not necessarily impinge upon the other. This study will review the historical issue, particularly by examining the political language of the books of Kings. It will then reconsider the far-reaching philological conclusions reached on the basis of the Chronicler’s account of Josiah’s death.

USSISHKIN 2011

David Ussishkin, *On Biblical Jerusalem, Megiddo, Jezreel and Lachish*. Chuen King Lecture Series 8 (Hong Kong 2011).

In the case of Jezreel, we have a good example of the biblical text aiding the archaeological interpretation: the Omride enclosure is dated to the reigns of Omri and Ahab on the basis of the biblical text. Hence the pottery uncovered in the enclosure could be firmly dated and usefully applied to re-date Stratum VA-IVB in Megiddo.

YOUNGBERG 2017

Brendan G. Youngberg, *Identity Coherence in the Chronicler's Narrative, King Josiah as a Second David and a Second Saul*. [Journal of Hebrew Scriptures 17 \(2017\), iv, 1–17](#).

That Josiah is identified as the epitome of kings in the DH, does not require the Chronicler to claim the same. Rather, the Chronicler portrays another rhetorical strategy. With praise lauded on a king for providing a “right” Passover, the ensuing narrative portraying such an ignoble death is startling. However, it is precisely at the point in Josiah’s narrative where a transition between a laudable king, akin to David, and a defeated king, akin to Saul, is located that two concepts cohere: the appearance of Samuel and the establishment of the temple.

Biologie

MARSHALL 2021

Charles R. Marshall et al., *Absolute abundance and preservation rate of Tyrannosaurus rex*. [science 372 \(2021\), 284–287](#).

[s372-0284-Supplement.pdf](#)

Although much can be deduced from fossils alone, estimating abundance and preservation rates of extinct species requires data from living species. Here, we use the relationship between population density and body mass among living species combined with our substantial knowledge of Tyrannosaurus rex to calculate population variables and preservation rates for postjuvenile T. rex. We estimate that its abundance at any one time was $\approx 20,000$ individuals, that it persisted for $\approx 127,000$ generations, and that the total number of T. rex that ever lived was ≈ 2.5 billion individuals, with a fossil recovery rate of 1 per ≈ 80 million individuals or 1 per 16,000 individuals where its fossils are most abundant. The uncertainties in these values span more than two orders of magnitude, largely because of the variance in the density–body mass relationship rather than variance in the paleobiological input variables.

Charles R. Marshall, Daniel V. Latorre, Connor J. Wilson, Tanner M. Frank, Katherine M. Magoulick, Joshua B. Zimmt & Ashley W. Poust

Islam

KNAUER 1978

Peter Knauer, *Der Glaube kommt vom Hören, Ökumenische Fundamentaltheologie*. (Freiburg ⁶2003).

Klima

ZARNETSKE 2021

Phoebe L. Zarnetske et al., *Potential ecological impacts of climate intervention by reflecting sunlight to cool Earth*. [PNAS 118 \(2021\), e1921854118](#).

[pnas118-e1921854118-Supplement.pdf](#)

As the effects of anthropogenic climate change become more severe, several approaches for deliberate climate intervention to reduce or stabilize Earth’s surface

temperature have been proposed. Solar radiation modification (SRM) is one potential approach to partially counteract anthropogenic warming by reflecting a small proportion of the incoming solar radiation to increase Earth's albedo. While climate science research has focused on the predicted climate effects of SRM, almost no studies have investigated the impacts that SRM would have on ecological systems. The impacts and risks posed by SRM would vary by implementation scenario, anthropogenic climate effects, geographic region, and by ecosystem, community, population, and organism. Complex interactions among Earth's climate system and living systems would further affect SRM impacts and risks. We focus here on stratospheric aerosol intervention (SAI), a well-studied and relatively feasible SRM scheme that is likely to have a large impact on Earth's surface temperature. We outline current gaps in knowledge about both helpful and harmful predicted effects of SAI on ecological systems. Desired ecological outcomes might also inform development of future SAI implementation scenarios. In addition to filling these knowledge gaps, increased collaboration between ecologists and climate scientists would identify a common set of SAI research goals and improve the communication about potential SAI impacts and risks with the public. Without this collaboration, forecasts of SAI impacts will overlook potential effects on biodiversity and ecosystem services for humanity.

Keywords: anthropogenic climate change | solar radiation modification | stratospheric aerosol intervention | ecosystem | biodiversity

Phoebe L. Zarnetske, Jessica Gurevitch, Janet Franklin, Peter M. Groffman, Cheryl S. Harrison, Jessica J. Hellmann, Forrest M. Hoffman, Shan Kothari, Alan Robock, Simone Tilmes, Daniele Visioni, Jin Wu, Lili Xia & Cheng-En Yang

Kupfer

BERGER 2021

Daniel Berger, Michael Brauns, Gerhard Brüggemann & Nicole Lockhoff, *Auf den Spuren der Goldscheidung, Neue Hinweise durch Bestimmung der Isotopenzusammensetzung des Silbers und Kupfers in Gold*. [Metalla \(2021\), Sonderheft 11, 15–17](#).

Sprachlehre

TARMON 1978

Asher Tarmon & Ezri Uval, *Tabellen der hebräischen Verben*. ([Jerusalem 1978](#)).