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The Future of X

The view from here to 2050

Taking inspiration from “Face the People and Speak: On the future of expertise and public conversations,” Abby Smith Rumsey’s essay in this issue of *Boom*, we asked colleagues from universities around California to talk with us about the future of higher education, politics, prisons, transportation, nature, Hollywood, wine, the family, food, and music.

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Why 2050? There is something about mid-century. We've noticed a lot of thinking and writing about the future of California and the world focusing on 2050. It is a key date. Around then global population growth is expected to level off. And if we don't get our act together by then, climate change will really start kicking in.

We've talked about a lot of these big ideas in this issue of *Boom*. But 2050 is also not that far off. If some of us will be long gone, many others of us, including our students, will still be around. This is their world. So we wanted to ask the experts what it looks like, and what they would put in a time capsule to be opened in 2050.

These interviews were conducted and edited by *Boom* staff: Eve Bachrach, Jon Christensen, Annie Powers, Robert Smith, and Sara V. Torres.

Let the conversation begin.

The Future of the University

Alessandro Duranti is a distinguished professor of anthropology and dean of social sciences at the University of California, Los Angeles, and the author of "On the Future of Anthropology: Fundraising, the job market and the corporate turn," a provocative recent essay in the journal *Anthropological Theory*.

Boom: Do you think that many of the disciplines that we inherited from the nineteenth century will still be around, and will they look the same in the future?

Alessandro Duranti: When I started doing this work as a dean, my first idea was: Why don't we just forget the departments? Why don't we just think: Who do you want to play with? Who do you want to be with? That should be where you go. And then let's see what happens in the twenty-first century. But that's a really hard thing to do. And I didn't want to be Gorbachev. I didn't want to destroy the whole thing before we figure out where to go. So my solution has been to say, well, OK, let's create a parallel universe inside the university that is much more flexible. Let's play with that and let's leave the old structure the way it is. That's the idea behind our innovation lab—to take examples of collaboration and innovation that work and say: Let's do that. That will be our play place. And let's find money to do that. And donors are very



excited about that. They like this idea of interdisciplinary collaborations.

Boom: Innovation is not a new mantra in some parts of the university, but in others it really is. How do you see bringing the spirit and practices of innovation into disciplines that have been analytical and contemplative?

Duranti: All the young people who have made millions of dollars—and come to give talks to the students who participate in our Startup UCLA—tell these stories about failure. It's a mantra. You've got to fail before you learn how to do the thing you're trying to do. We don't have this model. We have the idea that you do the thing, and it should be good, and then you stay there forever and ever. The community that's interesting to me is one that is much more flexible, that reacts in a shorter time, that is well funded. Faculty

Let's create a parallel universe inside the university that is much more flexible.

—Alessandro Duranti

come together; they invent something new. It could be they invent a new method, a new model, a new way of working together, a new way of teaching, a new way of collaborating with people outside of the academy. It will be that kind of space that will allow something that builds on what you know but that is different.

Boom: How is thinking of ourselves as engaged in constructing a future together with business, government, nonprofits, society, or communities changing what we do?

Duranti: Hanging out with business people, which these days I do more than I ever did before in my life, one of the most interesting things I've found is that they're interested in people who are creative—that means that the humanities is very important for them—but they are also interested in people who can work together with other people in teams. So much of scholarly work traditionally is Lone Ranger kind of thing. The model of the lab in the sciences is very useful to think with and to use in the humanities and social sciences. And we have a few good examples of that in the social sciences, but that's not the usual way of doing research and solving problems. So that's why when I think about the future, I think about these other models, these other ways of doing things that are built on collaborations that might have been unthinkable ten or twenty years ago.

Boom: You've recently written a manifesto of sorts about how your discipline of anthropology should change to meet the challenges of the present and the future while recognizing that from the beginning it has been dependent on being engaged with the world outside academia, from donors who supported the first anthropologists at the University of California to employers who hire graduates today.

Duranti: We have always been engaged to some extent. And engagement with people who are outside of academia—and people who are not the state or the federal government—means that we actually need to be able to talk to the public at large. When you convince a potential donor to give you some money, you have to explain why it's a good idea. And that actually makes you think, what is a good idea? What is it good for? Is it good for society? Do we really improve the human condition? Do we do something useful for people? So there's that side of fundraising, for example, that has all

kinds of implications about the relevance of our work for people outside of academia, which is something that often gets forgotten, not only in the social sciences, but everywhere in the university. Faculty need to be able to publish where they're going to be recognized as scholars by their peers; that's very important. But at the same time, we also need to write in a way that the public at large can understand. We have to be good at telling stories. And do it in a way that people outside academia hear the story and see the pictures and understand what it is that we do, because then they can see themselves.

Boom: What would you include in a time capsule for 2050?

Duranti: It would be interesting to look at the students coming to campus in the morning. What is that they carry in their backpacks? Will people still be carrying things in 2050? That's an interesting question. We know now that they carry their phones and they look at them all the time. That we hadn't seen before. They also carry some books, which we had a long time ago. But in 2050, what will they be carrying, if anything at all?

The Future of Politics in California

Thad Kousser is an associate professor of political science at the University of California, San Diego, and the coauthor and editor of several books, including *The Power of American Governors*.

Boom: How will California's changing demographics change our politics and priorities?

Thad Kousser: Just this year we finally have seen the coming to fruition of California's march toward diversity and how that's changed politics and policy. Latinos played a major role in getting Governor Brown elected in 2010, and the reward finally came with the major education overhaul in this year's budget deal, which absolutely transforms the way schools are funded from the schools in richer areas getting more money to schools that have more high-needs students, and especially more ESL getting the lions' share of the increase in funding. It benefits all the constituents of the Latino legislative caucus in Sacramento, and it benefits the Latino voters who delivered Jerry Brown his victory.



We've already seen California step back from its Three Strikes law and change its approach to its prison population. That's certainly an issue that's been tied into race. I think the other question will be how will we deal with the next round of budget cuts, which will be inevitable—we'll always have a budget crisis. Will we deal with this by primarily cutting social services, which is how we mostly got through this budget crisis, or will we deal with it primarily by raising taxes? We will see more Latino power, but as Latinos have become the plurality and will become the majority, does the political division become less salient?

Boom: What are the prospects for the Republican Party in California?

Kousser: In the short term, Republican prospects are so dim that I think we'll see a very different Republican party a generation from now. There's no question in anyone's mind, not least the minds of Republicans, that the party needs to adapt or become a permanent minority. But it's not as if the party chair can flip a switch and have Republicans moderate, stop talking about gay marriage and immigration. These are still issues that are central to the remaining Republican base in California and important to

California democracy demands a lot of voters. —Thad Kousser

a lot of its leaders. But there's universal recognition that the party cannot survive California's new demography with the platform it has today. Over twenty or thirty years, we'll see a Republican party that maybe looks like the party of Earl Warren's years rather than that of Pete Wilson's time. But Republicans who run away from the party nationally always have the ability to make their own politics. If you've got \$100 million to spend on advertisements or the kind of political capital that someone like Condoleeza Rice has, you have the chance to change the party's brand. Otherwise, I don't see Republicans winning any of the other statewide offices for a while. But there might be some opportunity at the local level where candidates can have a personal relationship with voters, like in city council and mayor's races. But in assembly districts, in congressional districts, when you're running for state controller, it's hard to get the attention of enough Californians to change their minds about who the party is.

Boom: Will we have real dramatic reform by 2050?

Kousser: We haven't had a constitutional convention since 1879, yet we've amended our constitution 500 times in the last century. We amended it five times in 2010. We've rewritten the rules of our government in really important ways. In the coming years, we may see tinkering with the tax code. If you see a Supreme Court striking down contribution limits and disclosure laws—which is not a certainty but a clear possibility—you'll see renewed attention to changing state campaign finance laws. Such changes at the national level might also make voters willing to invest in a robust public financing system for candidates. The chances of that happening are low, but greater than zero.

California democracy demands a lot of voters. It means we have to make choices about lots of candidates who we don't know too much about, and we have to make choices about initiatives that are really complicated. I think most of the reforms are aimed at taking advantage of new technology that give voters better information so that, without devoting their lives to the study of California politics,

they can make informed decisions, and to try to give a counterbalance to the groups that are giving us lots of information now, which is whoever can afford the thirty-second TV ads.

Boom: What would you include in a time capsule for 2050?

Kousser: I'd have to look around the cars in my city and see if someone still has a Filner for Mayor bumper sticker.

The Future of the California Prison System

Sharon Dolovich is a professor at the University of California, Los Angeles, School of Law and an expert on the law, policy, and theory of prisons and punishment. She recently served as deputy general counsel for the Los Angeles Citizens' Commission on Jail Violence.

Boom: If you were put in charge of California's prisons tomorrow, what are the first three changes you would make?

Sharon Dolovich: The first thing I would do is form a sentencing commission to rethink California's sentencing policy from the ground up. If it's done well, it could lead to a significant reduction in the number of people not only in California's prisons but also in county jails, which is where the overflow from prisons is now being sent. A wisely approached sentencing commission agenda could lead to a smaller and, therefore, more humane system. Other changes I would like to see made include a rethinking from top to bottom of the use of solitary confinement, and the institution of meaningful parole reform. Parole reform could reduce the number of people in custody without any appreciable public safety threat, and reforming the use of solitary confinement would change the culture of the prison, how prisoners feel about their prospects, and the willingness of people at all levels of the prison system to engage in a healthy and positive way with the day-to-day program of the prison environment. Unfortunately, it's hard to see a likely pathway to the implementation of those changes.

Boom: What needs to be done to accommodate older, sicker prisoners as our prison population ages, and will we make those changes?



Dolovich: One thing to understand about the graying prison population is that people age much faster in prison than they do outside prison. Without making changes, we will have high-security old-age homes all over the state. So what can we do? I hate to be boring about this, but we need to take a fresh look at sentencing policies. Not only do we need to reduce our reliance on long sentences, but we also need to think about more meaningful opportunities for parole for people who have done several decades in prison but are now forty-, fifty-, sixty-years-old and are very unlikely to commit new crimes. All the studies show that long-term lifers who are in their forties or older have extremely low recidivism rates. We aren't getting any public safety payoff from keeping them in custody, and it's costing us a lot of money.

Boom: Does this mean we're going to start releasing old and sick prisoners with no way to care for themselves in large numbers into the community?

Dolovich: There are two possibilities. The state might say, "Too bad for you; rely on the programs we have and if they're not enough, die in the streets for all we care." Or we might take the more enlightened course and recognize that we have a problem that to some extent we've created ourselves by the profligate use of extremely long sentences. We might say, look, we're saving a lot of money on their custody. We could take some of the money that we save on

What we're seeing now in California is a perfect storm of problems emanating from the prison system.
—Sharon Dolovich

early release and develop state-run decent care facilities for them. The problem, of course, is that reinvesting some of the savings on custody into decent care for former prisoners will likely (and reasonably) elicit objections that there are plenty of people who didn't commit crimes who need decent care at or near the end of life. The obvious answer would be to provide decent care for everyone who needs it, but barring that, I concede that my proposal for caring for elderly former prisoners is likely to be a nonstarter.

Boom: Assuming the trend of de-escalation of the drug war continues, what will the prison population look like in 2050?

Dolovich: You might automatically assume that it would be a more violent population, because if you have fewer people in custody for drug crimes, then you'll have a higher percentage of violent, serious offenders in custody. But that assumption fails to take into consideration the way that prison conditions themselves create a culture of violence. Counterintuitively, it's possible that you might see a safer, more humane atmosphere in prisons because prisons would be running at a reasonable capacity, and this could create renewed space for programming, and for people to feel safe without having to rely on the gangs for protection. People in custody thus might be less likely to engage in the destructive practices that make so many prisons like gladiator schools.

Boom: Where will the political will to take the treatment of prisoners seriously come from?

Dolovich: If such political will does emerge, there will likely be several reasons why. One, the cost of incarcerating in the current manner is an ill-advised use of funds. It's not buying us the long-term public safety that it should. Second, we will confront more directly the fact that our method of

incarcerating is at odds with the public interest. What we really want is a system that will release people better fit for socially productive lives, but we're doing the opposite in many cases. Even though there are a lot of lifers in California, the vast majority of people in California prisons are going to be released some time; and unless we find a pathway to more humane treatment, many of them are unlikely to be successfully reintegrated into society. But the only way society is going to commit to meaningful reform is if we are collectively invested in and recognize an obligation to the people we incarcerate. Politicians are starting to use the language of "shared humanity," "second chances," "dignity"—terms that remind people on the outside that people in custody are human beings. Are we going to see the emergence of that language in California? I don't know. But if in 2050 we look back on the current situation as a disaster that we managed to escape from with thoughtful, wise reforms, it will only be because in the intervening years we started to think differently about the shared humanity of the people in custody.

Boom: And the chances of us tackling those issues by 2050?

Dolovich: Slim to none, but one never knows. Social change comes when there are urgent problems that force themselves onto the public agenda. What we're seeing now in California is a perfect storm of problems emanating from the prison system, and the resulting effects may force a rethinking of our current policies.

Boom: What would you include in a time capsule for 2050?

Dolovich: Three documents. The first two are the Ninth Circuit three-judge panel order and the Supreme Court affirmation of that order in *Brown v. Plata*. The panel order provides a vivid picture of the crisis over the last ten or fifteen years in the California prison system, and the Supreme Court decision makes clear just how terrible the situation is in California, and how bad things have to get before the Supreme Court will side with prisoners in such a far-reaching way. The other document is the list of demands made by the Short Corridor Collective in Pelican Bay for the reduced use of solitary confinement. It says a lot about where the California prison system is today and what is wrong with the current state of things.

The Future of Transportation

Daniel Sperling is founding director of the Institute of Transportation Studies at the University of California, Davis, and author or coauthor of more than 200 articles, reports and books, including *Two Billion Cars: Driving Toward Sustainability*.

Boom: What's your favorite form of transportation?

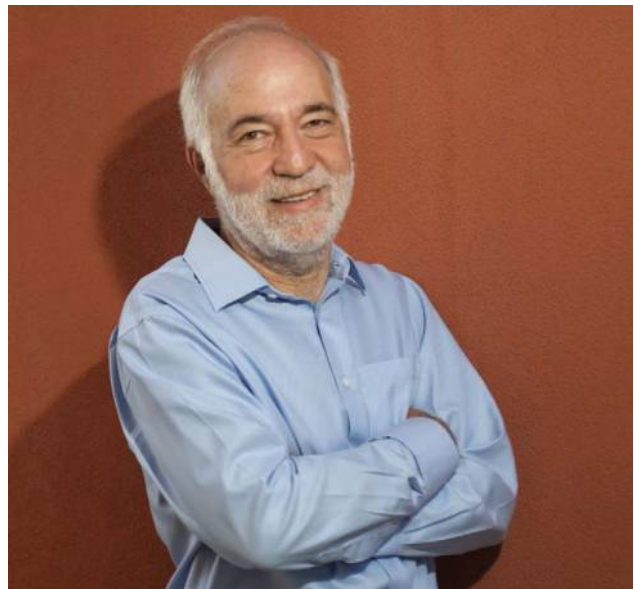
Daniel Sperling: Bicycle for local trips, airplanes for long trips, and they average out to be not-so-high-carbon. I've just hit two million miles on United Airlines, which I'm not proud of.

Boom: Would you want to travel on Elon Musk's proposed Hyperloop?

Sperling: If it were as fast and cheap as they say—800 miles per hour and \$20 to get from the Bay Area to LA—I would be delighted to use it. There would be questions about how safe, secure, and quiet it is, but if it ever lived up to its billing, yes, it would be very attractive. But those chances are slim.

Boom: What is your vision for transportation in 2050?

Sperling: Less urban sprawl so that it is much easier to use neighborhood electric vehicles, biking and walking for local trips. The small electric vehicles might be automated and would operate on electrified lightweight tracks that can be constructed easily and cheaply because the cars would be light. When the vehicles go off the tracks, they would have a small battery or fuel cell that would allow them to go on local streets and travel perhaps thirty miles into rural areas. On top of that, we'd also want to develop a suite of new mobility services that take advantage of modern communication technologies. We'd be able to access demand-responsive vans through smart phones to pick us up within a few minutes—kind of like a SuperShuttle to the airport but with a quicker response and able to access any destination in a metropolitan area, not just airports. We would also have smart carpooling services, so if people are going to a ballgame, or to work, and if they knew their neighbors were also going in that direction, they could carpool. All of these new mobility services exist, but there are all kinds of barriers that inhibit them from being more successful. We have to create incentives to support these companies and



not try to quash them. By 2050 I think these transit options will be very common. They will account for a significant share of passenger travel by then.

Boom: As people move closer to the places they work and socialize, will we all be traveling less over the course of our days in 2050?

Sperling: It's already happening. In California we have a law that encourages reductions in vehicle use and sprawl, with specific targets for 2020 and 2035—the Sustainable Communities Act of 2008. People are traveling less for a variety of reasons, including desire to avoid traffic congestion. But it is also because people go through a lifecycle. When they get married and have kids, they tend to want more space. But after the kids are gone, most people want to revert back to smaller homes, easier access to services and entertainment, and thus more compact land use. If we recognize that many people prefer a lifestyle that is centered on more density, and we built our cities and neighborhoods accordingly, then we would see a dramatic reduction in vehicle use. We would see a great increase in walking and biking, and use of small neighborhood cars as well.

If we depend on public investment, nothing will happen.—Daniel Sperling

Boom: When will we see public investment to support the infrastructure for these alternative mobility services and vehicles?

Sperling: If we depend on public investment, nothing will happen. It has to be private investment. The cost is not large. Here at UC Davis at the Institute of Transportation Studies, we've estimated that the cost of switching to an electric and fuel cell vehicle system would be about \$100 billion over fifteen years. That seems like a lot of money, but when you consider that we spend about \$500 billion for gasoline per year in the United States and a total of almost \$2 trillion every year to own and operate our cars, it's a drop in the bucket. The question is, where do we find that \$10 billion per year? It won't be through taxpayer subsidies. One way is through feebate programs where car buyers pay fees for gas guzzlers and get rebates for clean, efficient cars—with taxpayers paying little or nothing.

Boom: What will the car-to-person ratio be in 2050?

Sperling: There are currently about eight cars for every ten people—and I think it's going to be the same in 2050. What will be different are the types of vehicles. There will be many of those small neighborhood cars and automated cars running on lightweight tracks, all of them running on electricity and/or fuel cells. We're going to continue to have a transportation system based on personal mobility, because that's what people want.

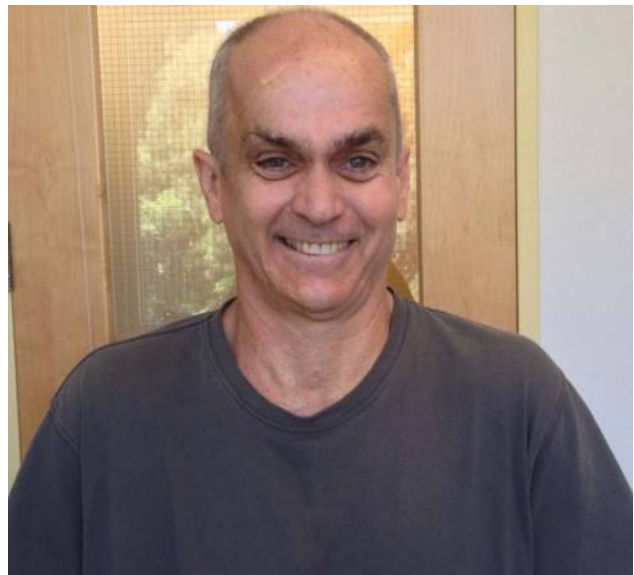
Boom: What would you put in a time capsule for 2050?

Sperling: I'd insert a Hummer SUV as a symbol of how obscenely inefficient our transport system had become around the turn of the century.

The Future of Nature

H. Bradley Shaffer is a distinguished professor of ecology and evolutionary biology at the University of California, Los Angeles, and the director of the La Kretz Center for California Conservation Science, a part of the UCLA Institute of the Environment and Sustainability.

Boom: What do we need to do now to preserve biodiversity in the future in California?



Brad Shaffer: One of the things I am really hoping we can accomplish is to collect baseline population genomics data, ideally for every species of plant and animal in California, and beyond for that matter, so that we know what kind of genetic diversity currently exists across the state. What we have now is a poor substitute for what we had, but it's all we've got. And as we move forward, having that baseline is really useful in that it allows us evaluate how we're doing in ten years or twenty years or whatever—how we're doing in terms of retaining what we had and how we're doing in terms of potentially improving on what we had or what we lost.

Boom: What is “conservation genomics” and why do we need it?

Shaffer: The relationship between conservation and genetics is a very old and very deep relationship, and it simply says that there is a lot of information in the genetics of wild populations of organisms that's relevant to how we should conserve and protect them. Say you have a species that is in trouble and we want to try to come up with a conservation plan for it. One of the things we want to do is conserve the diversity within that species. If that species occurs in Central California and in Southern California, we would like to know if they are genetically very different on either side of the Tehachapi Mountains that separate those two parts of their range. If there are genetically different parts of a species' range, we want to make sure we conserve populations

Deeper knowledge does not provide carte blanche to do things that are going to destroy or scramble the environment even more.
—Brad Shaffer

in genetic region one, genetic region two, etc. You can also use genetics to learn about how plants and animals move across landscapes. You can do studies of migration and gene flow—the movement of individuals and their genes—by using genetics. When people use the term “conservation genomics,” what they mean is scaling up the genetics that we would have traditionally done in the past to much larger and more informative studies. So, traditionally we might have studied five or ten or fifteen genes, and now genomics means scaling that up by one or two or three orders of magnitude and studying a lot of genetic material from those individuals and populations in a species—going up to a thousand or ten thousand genes. In principle, it could mean studying the entire genome and analyzing all of the genetic variation found in a species, although that hasn’t been done except in few model systems to date.

Boom: Does conservation genomics mean that we can afford to be ecologically risky or reckless—as long as we are going to conserve these genomes, then it doesn’t matter about the effects we have on the environment?

Shaffer: Let’s say we had full genomic knowledge of population variation for every species of plant and animal. Would that allow us to be ecologically risky or reckless? Hopefully not. It would allow us to be ecologically and environmentally better informed in terms of what our actions will mean for those populations of plants and animals. What that might mean is that certain things that we thought we had to be careful about, in fact, with that greater depth of knowledge we now feel we don’t have to be as careful about. Other things we felt that we didn’t need to be careful about, perhaps we do. My way of looking at it is that it will allow us to better understand what it means to be reckless and avoid it

because we’ll be better informed. Deeper knowledge does not provide carte blanche to do things that are going to destroy or scramble the environment even more. Hopefully, it gives us better insights into what the consequences of different actions, different environmental and ecological actions, will be.

Boom: How does conservation genomics change the way we think about traditional threats to conservation, like increasing land conversion, infrastructure, and agriculture? Does genomics show us that species might work around or adapt to these threats?

Shaffer: Genomics may in some cases either inform us or allow us to make more educated predictions about how organisms will deal with those threats. It can do that by informing us about specific ways that organisms adapt to the environment and change. It can also allow us to make better predictions about what they will do as they adapt to human mediated change. Climate change, and how organisms will and will not adapt to it, is a great example. If you learn about how organisms in the past—or currently—have been able to successfully adapt to some natural change, and humans are currently creating similar kinds of changes, that should help us better predict how organisms might adapt in the face of human disturbances and environmental challenges.

Boom: What would you put in a time capsule for 2050?

Shaffer: I’d put two things. One is a frozen sample of a native plant—say, an oak tree acorn—and a weed to look at changes in those species’ DNA over forty years as they adapt to climate and other human-mediated changes. The other is a sample of dirt from Pershing Square in downtown LA, from the Santa Monica Mountains, and from the beach in Santa Monica to be able to look at changes in soil bacteria and fungi over the same time period.

The Future of Hollywood

Jennifer Holt is Associate Professor of Film and Media Studies at the University of California, Santa Barbara. Her new coauthored book, *Connected Viewing: Selling, Streaming, and Sharing Media in the Digital Age*, will be published in 2014.



Boom: Steven Spielberg and George Lucas have warned that Hollywood is going to “implode.” Do you think this doom-and-gloom forecast of the industry’s future is accurate?

Jennifer Holt: Certain aspects of the entertainment industry are facing some serious challenges, thanks to new technologies, consumer demands for “anytime, anywhere” access to entertainment, and new options for distributing content that open the playing field dramatically. That doesn’t necessarily mean Hollywood is going to “implode,” but it does mean those working in film and television production at the studios are going to have to continue adjusting the way they do business. Don’t forget that we have heard these cries of impending doom before, many times. And yet, Hollywood is alive and well, and Steven Spielberg and George Lucas are still making movies, television, and money.

Boom: Can California survive without Hollywood?

Holt: I don’t think a “California without Hollywood” is a scenario we are going to be realistically facing anytime soon. While the percentage of films being produced in California is definitely shrinking, the state still accounts for nearly 40 percent of all entertainment employment nationwide, and 60 percent of all labor income in the industry is earned in California. That doesn’t even begin to account for the service and support sectors that are crucial to the workings of the entertainment business—everything from dry cleaners to hotels and restaurants—or the goods purchased by the industry, most of which come from California. Hundreds of films and television series are produced in California each year, and entertainment is consistently one of the country’s largest exports. This industry is facing challenges, but it is not facing extinction.

Boom: You’ve done work on deregulation in entertainment. How will this phenomenon impact the entertainment industry of the future?

Holt: Deregulation will continue to impact the entertainment industry and the audience in profound ways, until the government decides to take action on behalf of consumers. The consolidation of media industries that has resulted from the deregulation that began in the 1980s has impacted the quality of our media culture, the accessibility of information, and ultimately the fabric of our democracy. The same conglomerates that create the latest blockbusters also produce most of the television news that Americans consume. Companies like Comcast also control the cable wires and Internet service that deliver this information. Further consolidation in these industries only means less choice, higher prices, and more homogenized media. Future combinations of high-tech industries and content producers are something to watch. Should they begin to gobble up one another and impact competition that would limit our options even more.

Public spaces that don’t have screens on the walls will probably look as quaint in 2050 as images of families gathered around the radio do now.—Jennifer Holt

Boom: How do you think the increasing availability of film and television online will affect American culture?

Holt: I think in one sense, it will continue to fragment the audience. We have more choices of what to watch on any given night with streaming platforms such as Netflix or Hulu, and more devices on which to enjoy this content. We don't have to limit ourselves to one viewing space either—studies have found that many people are increasingly using tablets to stream media in the bathroom, bedroom, and kitchen. So the more connected devices and available content we have, the less likely we are to converge in one place, around one screen, to watch the same show. Media is also becoming easier to share and discover with online delivery, so there is also the potential for exposure to more and different types of shows that we would otherwise see, even if we are watching them alone, on our phones.

Boom: What would you include in a time capsule for 2050?

Holt: I would include an episode of “The Bachelor,” because otherwise nobody in the future will believe this actually happened, a cable box, a clunky remote with buttons that you actually have to push, a special section for physical media such as DVDs, CDs, newspapers, and books so we don't forget what they once looked like, an iPhone which we might all laugh at someday as much as the brick phone, a landline telephone with its connection cord, a cable bill, a modem, a copy of *Minority Report* (set in 2054), a broadcast network scheduling executive, and pictures of domestic and public spaces that don't have screens on the walls—that will probably look as quaint in 2050 as images of families gathered around the radio do now.

The Future of Wine

Andy Walker is a geneticist, professor, and Louis P. Martini–endowed chair in viticulture in the Department of Viticulture and Enology in the School of Agricultural and Environmental Sciences at the University of California, Davis.

Boom: What is the legacy of the California Mission grape and its role in our state's wine legacy?

Andy Walker: The Mission grape variety was brought into California in the mid-1760s by Spanish missionaries as they



thought for many years that this grape originated from a collection of seeds from an unknown variety in Spain that Spaniards brought to the New World in the 1560s. Recent DNA-based testing has found that Mission is the same as Listan Prieto, a grape from the Canary Islands—the last stop to load food and water on the way to the edge of the earth or the Americas, whichever came first. They also brought Muscat of Alexandria. Interestingly, the Torrontes grape of Argentina and several obscure relatives turn out to be hybrids of Listan Prieto (Mission) and Muscat of Alexandria, and may have been crossed and created here in the New World. Mission was widely grown until the Gold Rush era when Europeans brought better quality wine grapes to meet the expanding wine demand in the state. It is a very vigorous variety with very high yields and well suited to dry arid conditions with limited rainfall, but it has poor color and is often astringent.

Boom: How are California grape growers and vintners investing in sustainable practices?

Walker: Sustainability has become a key concern for the California wine industry and has focused on soil, water, energy, and labor. Water will be one of the biggest challenges to viticulture in our dry and overpopulated state. Growers are rethinking their irrigation and rootstock choices and considering a time in the near future in which water will be much more limited—perhaps due to the environment but certainly due to political, social, and environmental pressures.

Boom: How is the millennial generation of Americans—those in their twenties and thirties—driving new trends in wine consumption?

We have the ability to
produce excellent wines
in a warmer climate.
—Andy Walker

Walker: The most dramatic example is the sudden explosion of interest in Muscat wines (apparently the result of a few rap songs)—the acreage of these varieties has dramatically expanded in the last few years.

Boom: What are the possibilities on the horizon for out-of-the-box technological or genomic innovations that will challenge our perceptions of the limits of terroir, climate, and grape varieties?

Walker: One of the limitations in wine research has been the inability of machines to equal the human nose. We are now approaching that ability—and at the same time are in the midst of a genetic revolution due to the dramatic reductions in the cost of and improvements in approaches to genome sequencing. The next step will be to use these tools to understand the role of terroir in quality, or manipulate ripening profiles to combat climate change. I hope we see a movement toward using wine varieties that are better suited for warm climates and a greater willingness to use new varieties bred to be resistant to pest and diseases. Both of these fit the sustainability bill.

Boom: How do you see climate change affecting the California wine industry?

Walker: A changing climate will likely impact the varieties we choose to grow in a given region. It will also change the way we trellis and cultivate vines. I think we have the ability to produce excellent wines in a warmer climate.

Boom: What wines will we be drinking in 2050?

Walker: I think we will be using varieties with mildew resistance. Classical breeding is poised to take advantage of genetic markers for disease resistance and solve many grape disease problems. Foremost among these in California is powdery mildew for which growers apply fungicides prophylactically eight to twelve times (or more) per season.

I also hope we are using some of the outstanding Sicilian and Spanish varieties that are well suited for California's warm and dry climate.

Boom: What would you include in a time capsule for 2050?

Walker: The California Grape Acreage Report for 2012, an iPad mini, and as many of the endangered wild grape species as we could fit! These species are threatened across the United States by urbanization, agriculture, wanton disregard, and herbicide use by highway crews.

The Future of Family and Home

Elinor Ochs is a distinguished professor of anthropology at the University of California, Los Angeles, director of the UCLA Sloan Center on Everyday Lives of Families, and coeditor of *Fast-Forward Family: Home, Work, and Relationships in Middle-Class Families* and *Life at Home in the Twenty-first Century: 32 Families Open Their Doors*.

Boom: What was the most surprising conclusion you drew from observing the rituals of daily life in middle-class families?

Elinor Ochs: On one level, we were not surprised by our observations because we are from middle-class society ourselves. We were familiar with middle-class family communication and knew, for example, that Americans are big consumers. Yet, after dawn-to-dusk video recording of family life and poring over nearly 21,000 photographs of homes, we were staggered by the accumulation of goods in people's homes. Our study holds up a mirror to society: clutter results when families keep going to stores and bringing home toys, clothes, sports gear, food, televisions, computers, game consoles, and more. Many families stockpile food, storing surplus food in second refrigerators. Their possessions spill out of the house into the garage. A related observation is that families purchased and ate primarily packaged convenience foods. These foods come in boxes that take up a lot of space, which is one reason Americans seem to require such big refrigerators and freezers. Many parents said they were too busy to cook food from scratch, but we observed that it took only ten minutes more hands-on time to prepare meals from scratch than to prepare packaged foods. Perhaps ten minutes matters for some parents,



but being too busy cannot be the whole story about parents relying on packaged foods. It may be, instead, that some parents do not know how to cook dinner from raw ingredients. Our study indicates that what families eat influences how long family members eat dinner together: Family dinners with food made from scratch were the longest; dinners of packaged foods were the shortest.

Boom: Your research indicates the importance of family members exchanging personal narratives at dinner. How do you see families carving out time for such interactions?

Ochs: Dinnertime is not the only time when family members can exchange information about their lives, but it tends to be an important opportunity. Family members have cell phones and the possibility of communicating in dyads—for example, a parent and a child or a couple—throughout the day. But dinnertime can involve the family as a unit narrating experiences. Family members at dinner often recount experiences that troubled them. They use dinnertime to understand those experiences and their relevance for how they should handle similar experiences in the future.

Sharing life events with other family members is a universal means to become intimate and share moral values.

Boom: What challenges will American families face in the future?

Ochs: One of the biggest challenges for twenty-first-century working parents is to figure out how to provide emotional and practical support to not only one's children but also one's partner. Our study found that, despite the feminist movement, working mothers returned home two hours earlier than their spouses and performed most of the housework and childcare. The most frequent observation of fathers at home was alone in a room, while mothers were most frequently observed with one or more children. The couple was rarely together in the same room without their children. Regarding the family as a robust social and emotional unit, a challenge is to inculcate in children a sense of responsibility toward other family members. It is difficult for parents to nurture a child's dreams and ambitions yet at the same time not tip toward over-nurturance, which discourages a child's autonomy. Like a horse whisperer, I would gently encourage parents to allow a child to become a capable and respectful human being who looks out for the welfare of other people, including one's parents, and is able and willing to help the family unit. The hard part is knowing how to apprentice children to be responsible, balance their own self-interests against the needs of other people, and develop a sense of the common good. American middle-class households are, in many ways, very privileged in comparison with those in other societies around the globe. The challenge is not to squander that privilege in a way that will encourage a sense of children's autonomy decoupled from a sense of responsibility toward others.

Boom: What you include in a time capsule for 2050?

Ochs: A dining room table.

What families eat influences how long family members eat dinner together.—Elinor Ochs

The Future of Food

Allison Carruth is an assistant professor of English and affiliate of the Institute of Environment and Sustainability at the University of California, Los Angeles, and the author of *Global Appetites: American Power and the Literature of Food*.

Boom: In what directions will California cuisine continue to evolve in the future?

Allison Carruth: While fusion cuisine seems to be on the decline, the “locavore” eatery is still going strong. But another culinary movement has been percolating in California: underground restaurants and food trucks that fuse not only different ethnic cuisines but also the high tech and the homemade, or molecular gastronomy and comfort food. With LA as an epicenter for this movement, one direction California cuisine may take in the future is away from the sit-down restaurant and toward the culinary “happening.” At the same time, I anticipate a renaissance of natural foods and vegetarian cuisine that, with cold-pressed juice as a current (if expensive) beacon, would counter the increasingly meat-centered menus at many farm-to-table restaurants.

Boom: What kinds of questions should Californians interested in ethical food consumption be asking?

Carruth: We need to get beyond labels like “local” and “organic” and instead compare the upsides and downsides of different forms of farming and food sourcing. What are the climate impacts of grain-fed versus pasture-raised livestock and of meat production versus legume farming? What are a restaurant’s or farm’s labor conditions? What are the ranges of crops that a farm (or region) can grow in ways that mesh with soil, water, and energy constraints? What foods make the most sense to import, and how can communities build reciprocal rather than exploitative trade relationships with other food-producing regions around the world? In the decades ahead, I hope that the criteria for food sourcing and the metrics for incentivizing different agricultural and culinary practices include an attention to labor conditions and climate impacts.

Boom: How do you think American family food rituals will change in the future?

Carruth: *What we eat has a lot to do with how we cook.* I could imagine one scenario in which middle-class families



rehydrate food vials that deliver calories, nutrients, and pleasurable tastes with no cooking required and then reallocate the time they would have spent cooking and eating to new shared rituals of media production (rather than TV consumption). While sipping liquid meats and salads, the family hour each evening might include designing custom video games and producing multimedia home movies. And yet, I also can imagine a very different scenario (or perhaps type of family), in which home gardening and cooking from scratch are more rather than less valued for reasons at once emotional (a means to “unplug”) and practical (a low-cost alternative to food sources whose prices grow exponentially with climate change and the reduction of arable farmland).

What would you put on the menu at a Boom dinner party in 2050?

Rooftop-dried, dry-farmed tomatoes with rosemary

What we eat has a lot
to do with how we cook.
—Allison Carruth

Microgreen* salad with lemon, goat cheese, and rock salt
Farmed red snapper* over lentil mousse
Slow smoked, city-grazed goat shank with red wine
reduction and in vitro guanciale
Wild berries with sugar-dusted crickets

* Note the snapper and microgreens are produced together
in a state-of-the-art aquaculture farm in Golden Gate Park.

What would you include in a time capsule for 2050?

Menus from some favorite San Francisco restaurants;
photographs of Point Reyes National Seashore; a fully-
charged MP3 player with the recordings of Allen Ginsberg
reading “A Supermarket in California” in Berkeley; a bunch
of dried California sage; Green + Black chocolate wrappers;
a wine cork.

The Future of Music

Josh Kun is an associate professor of communication and
journalism at the Annenberg School of Journalism at the
University of Southern California. He is the author of sev-
eral books, including most recently *Songs in the Key of Los
Angeles*.

Boom: How will the music industry and artists adapt to
declining record sales and online music?

Josh Kun: We are obviously living through a period of great
transition; and like all transitions, this is a moment of tre-
mendous possibility and tremendous risk. Artists and com-
panies alike are finding a landscape loaded with glorious
pros and perilous cons, neither of which manifest them-
selves in the same way for either party (certainly one effect
is that artists have to start thinking like companies more
than ever before). I hope that fewer and fewer people are
merely adapting and reacting to a model that was bound to
be busted, but instead are seeing this as an opportunity: the
old foundation is cracked, shaky, and in many cases con-
demned, so let’s not try to repair it. Let’s cheer its teardown
and then build something new that offers musicians and
musical entrepreneurs a more just and ethical platform with
which to work.

Boom: What might “songs in the key of L.A.” sound like in
2050?



Kun: K-pop sung in Mixtec from 6 Street. Cambodian punk
covers of “Hotel California” from Long Beach. Instrumental
Indian 8-chip tunes from Fullerton that sample vintage Rod-
ney Bingenheimer KROQ broadcasts. Afghani hip hop from
Laurel Canyon. Whatever they sound like, I hope they carry
at least some of the spirit of Kendrick Lamar’s “Sing About
Me, I’m Dying of Thirst,” which is more of a city prayer than
a song.

Boom: You’ve written about the intimate relationship
between music, identity, and race. How do you imagine
different identities developing into the future, and what will
they sound like?

Kun: As the national population continues to grow into its
soon-to-be-realized majority African American, Latino/a,
and Asian American demographics, I think it will be very
interesting to see to what extent the new racial and ethnic
lines are crossed and to what extent old hierarchies continue
to be policed. The post-iPod, post-digital, post-millennial,
post-twerk (or whatever they’ll be dubbed) generation of
listeners will probably continue to approach music with an
increasing lack of responsibility and accountability for its

