===== *(00:00) to (10:00)* =====

John Green (J): Now I have become pixelated.

Hank Green (H): Yeah, well, you could just shrink yourself on down.

J: Oh, I see what you did there. You're in...So Hank is in control of this Google+ Hangout on air. Um, but, uh, but you know, I'm here, too. I matter a little bit. Hopefully. Um.

H: Yeah, that can depend....[incomprehensible talking]

J: But anyway. Hi, yes, welcome to the Google+ Crash Course Hangout.

H: We're doing it.

J: [incomprehensible talking]... which hopefully-

H: Um, I just went to the Crash Course page to see if this is working or not. It appears to be.

J: And it is. Okay. Great. Um, so, uh, we want to start by talking about Crash Course, and education and what led us to make this channel. And then we're gonna answer your questions on Twitter. You can tweet us @thecrashcourse or, uh, to our individual twitters...um... @realjohngreen and @hankgreen and we'll be answering as many questions as we can. But first we're going to talk about, um, how this channel came about and why we wanted to make it. Hank.

H: It was all John's idea. Um. YouTube basically asked us if we had ideas for original content programming stuff that we couldn't afford to do on our own and um... ooh, I need to enable me. Ha, it's me now. And so we, uh, we, we came at them with two ideas, both of them were educational in nature, one was SciShow and this is also SciShow headquarters here in Missoula. You can see if this is familiar to you from the news show, uh, behind me. Um, and the other was Crash Course and uh, what we wanted to do was sort of focus on what, you know, what we're good at, which is explaining things, and learning things, and, uh, and sort of something that we thought, would, would in addition to being entertaining might actually, uh, help the world be a better place. Um, so that's how we got started, was sort of a broad...

J: Yeah, so one of the things, one of the things that Hank and I always talk about, when we talk about our ideas, when we talk about what we, um, stuff we want to make, is, uh, whether it can do any good. Whether it can be a useful thing in the lives of the people who, uh, participate, participate in it with us. And uh, we felt like both with Crash Course and with SciShow. SciShow, you know, committed to sharing, scientific learning, and Crash Course committed to, um, you know making educational materials available, free to everyone that are engaging and fun, but also genuinely educational. Um, we felt like both those things could, could do some good. Um. So we're really proud of Crash Course and SciShow, and almost, gosh, almost five months in now. Um, it's been, it's been quite an adventure, definitely the most fun, interesting thing I've ever done on the internet, except for Nerdfighteria.

H: (laughs) Yeah, uh, it's been, it's been really rewarding to, to watch, uh, as people sort of actually take the courses and start from, you know, not much knowledge to a broader, a broader amount of knowledge. It's also very rewarding to see people, uh, being like, "I passed my AP exam because of you!" and, or "That episode came out right in time for me, or else I would have been screwed!" Um, so that's pretty cool.

J: Umm, so, there are lots of people with questions Hank, so I wanna start asking you questions, okay?

H: You're gonna ask me questions, okay.

J: I'm gonna ask you some questions, this is from @russeltospain. Are you planning, we're answering questions on Twitter by the way, @thecrashcourse, @realjohngreen, @hankgreen, are you planning to cover more subjects like Salman Khan at the Khan Academy? I don't think he's asking if were planning to cover the subject of Salman Khan, I think he's asking if we're planning to, to be like Khan Academy.

H: Umm, dude, that's just generally, uh, very hard, but, yes. I think that it would be fantastic if we can get into other topics. Um, Khan is amazing at, uh, at breadth, and I don't think that we're ever going to have that breadth, at least not in the short term. And certainly not with just the two of us. Um, Khan can do it all by himself because he's a genius, umm, and has a different format than we do. And uh we cannot do it by ourselves, at that level of depth in all topic areas, which he pretty much has covered all of them now. He's pretty much got every topic area there is. But we...

J: Well, he's certainly getting there. The Khan Academy, for those of you who don't know about it, is this incredible resource, that was really, is really the brainchild of one person, Salman Khan, and, uh, I mean there are thousands of videos, educational videos. But those videos are designed for highly motivated students. Um, they're, they're long, they, you know. They're designed for, for people who, you know, go into the video wanting, desperately, to learn, and our, our, our video series, Crash Course is designed, umm, for more, I guess, casual learners. Umm, you know, people who, people who see learning as part of, part of their life, and not necessarily like just, just school-focused. But also, you know, hopefully in a way that, that can be helpful to, to students. Um, Hank, do you guys have people editing your Vlogbrothers videos as well as your Crash Course videos, asks @katiefab (Katie Twyman)

H: (laughs) Oh, I just clicked on the wrong thing, sorry, I was trying, trying to activate myself and I paused the video. Um, the answer to that question is that John and I still edit our Vlogbrothers videos. Umm, occasionally, Michael Aranda will help me edit a Vlogbrothers video. I have him right there.

J: Just pure panic.

H: Um, but, (laughs), we do, we do uh, we still do all of our Vlogbrothers editing. And uh...

J: Yeah, I edit all the Vlogbrothers videos. I mean it's important to note that we also work a lot on Crash Course and SciShow. Um, but, as you may have noticed, we aren't great video editors.

H: I am! I'm a wonderful editor.

J: You're an okay editor, ah, you're, you're good at jump cuts, I mean, I-I-I don't think that, you, I don't think, I wouldn't trust you to make a Thought Bubble, let's put it that way.

H: Yeah, though, that's, that's, that's more than just editing, but I, yeah, and I think that, it's, it's a skill set that-that uh, we have, we have just sort of been thrown into, whereas a lot of other people are well-trained. Um, and so, uh for-for SciShow and Crash Course we have two full-time editors here, and one in Indianapolis, so that is a whole different world for us to have that kind of support. Um, but yeah, anytime, the only time that I would ever, like, not edit a Vlogbrothers video is if there was literally something I wanted to do that I didn't know how to do, and that, that's what Michael's for.

J: Yeah, I mean, we still, Hank and I both feel pretty strongly about keeping Vlogbrothers its own separate thing, and, and kind of keeping it the thing that it always has been. Um, but Crash Course and SciShow allow us to live our dream of making really educational content, um, which is what we always wanted to do, we just never had the ability to do it, because it takes a big team of people, like, I just don't know enough about the French Revolution, um, to make a video about it, you know. And Hank, no offense, but like, Hank doesn't know enough about meiosis to make an authoritative video on it and he certainly doesn't know enough about illustrating meiosis to, you know, do all the animations necessary to, to explain it. Hank you wanna an...you wanna answer some questions, or do you want me to keep going?

H: I think that I could, if I had the skills to be able to animate, I think that I would, I do have the knowledge necessary to animate meiosis, but...

J: Whatever, I...you're always saying that though. I...no one, no one is more convinced of, of, of his, of his own breadth of talent than my brother.

H: I-I'm not saying talent, I'm just saying I-I understand, uh, the basic levels of biology, otherwise I could not do this.

J: Um, why is the new history show, this is for me, consistently focused on military and religion, and why did you choose the particular narrative that it has? Um, well, it's not exclusively focused on military and religion, I also talk a lot about the plague, and in fact, I think, I think ultimately, arguably, uh, as I said in, in yesterday's Vlogbrothers video, um, microbes have a bigger effect on human history than either military or religion. Um, but, and there's also, there's also some focus on, on technology and scientific development, you know, things like, uh, how innovation, inventions changed, um, uh, you know, made the world smaller and made it easier to travel, for instance across the Indian Ocean, things like that. Um, but, you know, the focus is, is on religion, partly because that was the, or that was one of the focuses certainly, of lives in the time period that I'm talking about. So, you know, people, people's decisions, their values, uh, were shaped a lot of times...uh, almost always, actually...by, by their religious beliefs, and as those religious beliefs changed, a lot of responses to it changed. I'm always criticized by military historians for not talking enough about wars, so, I'm glad you think I talk too much about wars. Um, but you know, we, I try to be...I try to be as broad as possible, um, but, you know, our, I feel like my job is to try to talk about how decisions that were made over the, by, by people and also not by people, over the course of, over the course of world history led to the world that we have now. And that, hopefully, will, allows us to, to think, sort of more broadly, and with greater depth about the decisions that we're making now that are going to shape, uh, you know, the world for the next thousand or five thousand years, or whenever, um, we end up killing ourselves off. Hank, what was your favorite...

===== *(10:00) to (20:00)* =====
J: ...episode of Biology Crash Course, so far?

H: Umm, I don't know, I like the early stuff a lot, uh, where we're talking about the...like, I'm a bio-chemist by training and so that, that stuff was, uh, I get more into that stuff, despite the fact that most people don't. Um, so I really enjoyed that. I also really enjoyed the episode we just did on natural selection, um, and, uh, because that that's, that's the area that sort of gets the most attention, in, in, uh, our world, uh, you know, in terms of policy and, and like controversy, and I just like, you know, the opportunity to talk about that in a way that's not talking about the controversy and not, like, an argument between two sides, but just presenting the information, which I think John did a really good job of as well, you know, when you're talking about more hot-button topics in history like Islam and Christianity, and stuff like that. So, it's really, really, you know, it's great to have an opportunity to talk about these things in an educational context on the internet, when usually they're talked about in a polemical context on the internet.

J: Right, I mean, Hank and I are really interested, really interested, and we have been for a long time, in de-politicizing traditionally politicized issues, particularly when they aren't political, like climate change, for instance, which is not a political problem, um, uh, or, uh yeah, or Islamic history, which shouldn't be a political problem. Like, people shouldn't be, people shouldn't...but uh, but it is and you have to, you have to acknowledge the, the, the complexity of that. Like, I mean, the weird, the weirdest part about making that video, which was...that Islam video I guess was my favorite so far, although I like this week's, the one that comes, goes up tomorrow, about Mansa Musa in West Africa a lot. But, uh, the thing about that Islam video that made me nervous was talking about, talking about things that Sunnis and Shi'as still disagree about. Um, and that, that was actually, that was where most of the hot-button conversation was, I mean the rest of the, i-i-it was great, for the first couple days and we al...we always experience this Hank, where the first couple days, the discourse is astonishingly sophisticated and thoughtful and then slowly it degenerates.

H: There are fewer and fewer comments, and uh, you start to see, that there will be one, like usually the crazy comments get pushed down by the intelligent comments, and then, eventually there are fewer comments and so the crazy comments don't get pushed down, and people feel the need to respond to the crazy people and then you end up with stupid conversations.

J: But I do that too, I feel that same urge to respond to the troll.

H: We have...we have a...

Michael Aranda: I was, I was gonna say that uh after the video goes up, you're probably also getting fewer people who are subscribed to the channel because they're interested in the content...

H: Right.

M: ...and more people that find the video because they just Google "Islam."

J: Right.

H: Right, and they are looking for something to argue about.

J: Let me just tell you, Michael, incidentally, that, um, if we can get to that point where you Google "Islam" and the first thing that comes up is Crash Course...

H: (laughs) That would be, that's winning!

J: We're a long ways, we're a long ways off from that but...

H: John, I have a question for you. I have a question for you uh that no one is going to be polite enough to ask, why do you think Crash Course history gets so many more views than Crash Course biology?

J: Because it's about history and not about biology. (laughs) Um, I mean, it's really, it's pretty easy to make history populist, I mean, to make history something that you would choose to learn about. Um, there's a relatively low barrier to entry, right, because we're all, um, we're all human beings living amid history and we all remember that there was a French Revolution or something. Um, when it comes to studying biology, it, it is, it is, I mean, I don't buy that hard/soft

science distinction, but there is that, there is that distinction in it. Like, you're gonna have to learn some terminology, you're gonna have to pay attention to the way that cells are built in order to later understand natural selection. And, uh, there's a relatively high barrier to entry there. So, I think that's the issue, although I mean, how astonishing is it that just, just a few months into this project, you know, 60 thousand or 70 thousand people are choosing to watch videos about mitosis. I think it's awesome.

H: Yeah, yup, I am, I'm pretty consistently shocked, but what I always say to the people who are like, "Now what do you do?" and they're like, "But who pays for that, who watches that?" And I'm like, well, people who are learning these things choose to come find them. Or if they're not even learning them, they're just curious. And that's the most exciting thing to me, is that, like, we're creating content that people come out, like go out of their way to watch instead of you know, have to watch in a classroom. Sorry, I just forgot to click on myself before my monologue, but now I'm done.

J: Oh, I'm glad people got to see me, see me listening to you. Um, I have a question from @philipwhite, and this has also been asked by a lot of other people, um, it's: Is Crash Course mostly supported by ads and by Google, what makes your medium different from television, uh, and also I've frequently seen, um, are you guys gonna charge schools for Crash Course?

H: Umm, we are at the moment supported almost, well, entirely. We are supported entirely by a grant from YouTube/Google, umm, and that is the reason why we can make the content. Uh, there is a sort of hope that at some point, uhh, this content could support itself through advertising or through grants from other organizations. Uh. There are lots of educational grants in the world. Umm, and, umm and also through you know sales of Mongols T-shirts and, err, and we recently...

J: Err, err, you're right, Hank, that's the key...

H: Yeah.

J: Mongols. We'll all be rich! (laugh)

H: (laugh) I'm telling you that's the only path to true success... It's the Mongols T-shirts.

J: (laugh) To answer your other question, uh, Crash Course is already taught in hundreds of schools, which is amazing and something that we are really excited about and really grateful for. No, we don't charge them, no, we won't charge them. The whole idea of this project is to find a new way to make educational materials possible that doesn't use that old model of charging academic institutions for the right to show those, umm to... to share that... to share that stuff in class, um, we don't like that model. We think that it's inefficient; we think that, that schools could spend their money in different and better ways. Um, and we want them to be spending their money in those ways, um and we want this to be supported through other things, whether it's advertising or grants or whatever. Um, so that was the idea of Crash Course, you know we... we don't like the idea of... you know having schools fund, err, educational video because we think there's a market for educational video. We think people want to watch it. We don't think people need to be forced to watch it, um...

H: It's also very interesting to have, uh, come to the realization that, um, you know this, these things like what we're doing, you know, when you do it for free, people have a harder time taking you seriously, and they're like, well, one, you don't have a bunch of money to pay like salespeople to go into schools and try and sell the content, and try and like, explain to teachers, like, like, do a, do a symposium at, like, at you know a teacher conference, and talk about how useful this content is, and that's what all the for-profit institutions are doing, and so we are in this situation where, we're creating content that may very well be better, it's certainly cheaper ('cause it's free), um, but uh, a lot of places are less interested in it, because they don't understand, like how could this be better if it's so much cheaper. Which is an interesting problem.

J: Right, [laughs] well, but you know, we're just getting started, so it'll work out, umm, Hank? Are you looking at Twitter, because I'm looking at Twitter, I can keep asking questions, but I thought maybe you wanted to.

H: I don't know, I don't understand how you can multitask like that.

J: What do you mean, look at Twitter and also talk?

H: Yeah!

J: Um, well, I mean, that's, first off, when you're talking, I'm looking at Twitter, I'm not listening to whatever boring crap you're saying, so, so there's that.

H: Ag, uuuh, well there's, uh, there's Katie.

J: Oh, more importantly...no but okay...

H: (laughs) - Uh-

J: Uh-

H: Sorry.

J: You talk, Hank.

H: Uhm, there's Katie who - ooh, shoot - who asks, "Will Crash Course ever be used for charitable purposes like teaching people in third world countries who can't afford schooling?"

J: Well it's already used for that in the broadest sense. I mean, the great thing about the mobile internet and the spread of broadband internet to the developing world, is that it allows us to sort of take a jump in terms of infrastructure development, at least hopefully, so that you don't have to develop telegraph lines and then telephone lines and then dial-up and then this and this and this. You can go straight to 3G or 4G, which means that all of a sudden not just students outside of schools in the developing world, but also students in schools in the developing world have the opportunity to take advantage of all of the many educational resources that are freely available on the Internet, whether it's Khan Academy or Crash Course or Ted-Ed, which is doing great stuff, or MinutePhysics, or CGP Grey -- whatever it is -- and that's really really exciting to us, and one of the things that gets us fired up and makes us wanna do this is the believe that education is central to development, and that the biggest hurdle to development on some level is education, and this isn't...

===== *(20:00) to (30:00)* =====
J: ...the only way, I don't think that it's a magic bullet but I think that it's one way. And so I'm...I'm really excited about that, and it's already happening. We already see lots of YouTube comments in Crash Course and SciShow from the developing world, and hopefully in three to five years we'll see many many more.

H: I have another question for you, this one from Samantha. "What is the deal with the phrase of the week?" Cuz I don't really understand it either, John.

J: Yeah, it was probably not a good idea in retrospect.

H: (laughs)

J: And I've never explained it well. So, here's how it works. Every week, we take a phrase that someone suggested in comments, and we put it in the video. We somehow manage to find a way to insert it into the script of the video. And, the idea there was that people would guess at the phrase of the week and then they would suggest phrases of the week. But people mostly have found it very confusing, which has left us with relatively few phrases of the week suggested, which makes it even harder to work them into comments, which is why I had to write an entire episode about Kim Kardashian.

H: (laughs fully)

J: I was like, "There's no way I can work Kim Kardashian's name into an episode of Crash Course. I guess I'm just going to have to write the episode of Crash Course about Kim Kardashian."

H: What a disaster! John, a question from Meeva. "Do you think that Crash Course will branch out into literature and the arts from its less literature and arts-based foundations?"

J: Uhm, yeah, I mean we are, I dunno, I'd love to teach art history down the road, and I definitely would like to teach some kind of world literature class. It's challenging because while everyone is a part of human history, not everyone has read "Things Fall Apart." You know, everyone knows there was a French Revolution, not everyone is deeply familiar with the plot of Macbeth or desires to read it again. So I think that's one of the challenges, but we definitely want to do it. We just have to figure out the right way to do it. Whether that's all of us read the book together and then talk about it, or whatever it is, whether we focus on shorter works which most early college classes tend to do now, for better or worse... I don't know.

That's something I'd like to do, I'd love to do arts, art history... I'd love to do "Comp," like English language and usage and grammar. I know that that stuff sounds really boring, but it is actually astonishingly exciting. I get really geeked out about it, and, like, when we get to talk about what is and is not wrong with ending a sentence with a preposition and what a preposition is and how it functions in the world and how it opens up the world of observation to us, I get really really psyched.

So Hank, what do you want to teach?

H: Uhm, I don't know, science?

J: (laughs) Good job, Hank!

H: Stuff.

J: Stuff?

H: Yeah, more science-y stuff.

J: Do you wanna teach like, uh, physics, or teach like, uuuh, geology?

H: Well, both of those are very interesting to me. I would really like to teach biochemistry, just because that I just know a lot about it.

J: Right.

H: I get excited about it pretty easily. I'd love to have someone teach physics, but I don't think that I'm the right person.

J: No, I also would love to have someone teach physics.

H: And I also think, uh, I really... there's sort of a distinction between sort of hard physics of, like, of Newtonian and also beyond, and then there's a discussion of sort of broader, like, this is how weird quantum mechanics is. And I like to talk about that stuff even though at a base mathematical level I am nowhere near, um, understanding it, but...

J: Could you talk about that stuff without talking about the math, though? I mean, that's one of my...

H: Well you could talk about, like, what a quark physically is, what color charge means...

J: Right.

H: Why they change color, what the weak force is, what the strong force is, um, you could talk about that stuff, and you can do it in a way that's...that's, y'know, lets people understand it. So you actually get a pretty marvelously good understanding of the structure of the universe without having to talk about math and that...we talk about that stuff on SciShow. To do a course on quantum physics would be cool, but probably would better be done by someone who is not me.

J: Right, that reminds me of when I was writing *Will Grayson, Will Grayson*, and I was writing about Schrödinger's cat, and I had this like, I had this character, this, this, seventeen-year-old girl Jane, uhm, going on and on and on about the mathematics involved in the problem that led to the Schrödinger's cat thought experiment, um, all of which, almost all of which was written by my cousin, Blake, um... It wasn't even written by me. By my cousin, I mean Sarah's cousin, Hank's like...

J & H: We don't have a cousin Blake. (both laugh)

J: Blake who? Blake, he just had a baby, *he* didn't have the baby, his wife, had the baby...this is a disaster of a story, um... but my point is, that eventually, it became obvious to me that having this like six-page monologue from this seventeen-year-old girl about math I didn't understand was not going to be an asset to my novel.

(Hank laughs)

H: I just have received word that my wife has a question.

J: All right.

Katherine: I just think it might be interesting for people to know what the process is for every Crash Course video, because I know that it's different for each of you. So you could talk about that.

H: I don't know if you heard Katherine but what she said was, uh, maybe our processes for creating Crash Course videos are different, and maybe we could talk about the actual process behind how it works.

J: Sure.

K: Like Hank's have to be made farther in advance...

H: ...from beginning to end. Yeah, mine are made quite a long time in advance. We're about eight episodes out now. By the time the episode goes online I'm like "What? I don't remember that. What is this stuff?" That's not ideal.

J: Ours is filmed well in advance too, um. I think we're about the same far... the same amount out. By the way Hank, CGP Grey is watching us, don't get nervous....but, um, he's asking questions so I think he's watching us. He just asked, "How do you feel talking

about subjects on which you might not be experts yourselves?" To which my answer is, uhh not so bad. I mean, I'm not a historian at all, and here I am cranking away like an expert. I mean, we have educators working with us, so that's the reason I don't feel that nervous about it, but it is a little weird.

But to answer Katherine's question, um, yeah it's very different from traditional video blogging because...well, I don't know about you, Hank, but I'm in a studio, and um, Stan and Danica are there with me, and y'know, they're there to make sure that, y'know the lighting is right and all the stuff that I never understood in video blogging and the sound sounds good, and that, y'know Danica makes the beautiful chalkboard illustrations and all that stuff, um... and then....but the rest of it really is like video blogging except that I usually don't make a video blog from a script because, y'know I'm talking in my own words about something I care about, um, and so that is a little bit like video blogging. I don't know what your experience is, though.

H: Yeah. But we don't... we write scripts for Vlogbrothers videos too.

(Katherine saying something in background)

J: Oh, I don't. (Laughs) Do you, a lot?

H: Yeah, I script a fair amount.

J: Wow. I don't.

H: Yeah. I always find it goes significantly better by script.

J: I *do* script, uh, the "Thoughts From Places," you'll be surprised to hear.

H: Oh, really. (Laughs)

J: Yeah...astonishing.

K: When I think about the Crash Course and Sci Show, and if you planned the...breadth of the whole, of the series of videos.

H: Right, so I mean we start out...

(Katherine in background) K: From beginning to end, what you've planned for. Those topics are pretty much chosen, right?

J: Right, yeah, so I always start with like forty topics.

H: We sit down at the beginning of the process, and we, we y'know, sat down with a biology textbook, with a biology teacher, with, y'know, sort of the AP guide to what you're supposed to know at the end of an AP biology class, and we were like, "OK, how are we going to put these into classes?" and we've stuck to that pretty much. Occasionally there will be a script that is, y'know, twenty pages long, and we'll be like "we should probably do this in two episodes." Uh, but generally, you can do that.

J: Yeah, when we first started the writer, Raul Meyer, sent a list of 40 topics he wanted to cover and we had a little bit of back and forth about which, you know, which 40 we should go with and then we, we eventually figured it out. Although now I wanna make, I wanna make a full 41st one, because I promised the last episode would be about the, the t-shirts and the global economy, which, as you know, Hank, is something I find completely fascinating, much to your consternation. Umm, and I really, really want to make that video so I, we might have to cut something along the way or I'll just do a special bonus episode.
Speaking of special bonus episodes we have a couple surprises, and Hank, do you wanna crank one of those out now, since we're at the midway point of our, of our live show?

H: Yeah, let me just get it ready.

J: Okay, Hank is gonna get something ready. While he does that I will answer another question. Um, "would you let someone outside the Vlogbrothers teach in Crash Course?"
Absolutely! Um, you know, the reason that we haven't so far is strictly, frankly, kind of a budgetary thing. Um, Hank and I are free!

===== *(30:00) to (40:00)* =====
J: Ahh... we're free and we have a lot of experience at doing this and we kind of know how to do it and there aren't that many people who know how to do it, and those who do generally aren't free. Umm... a lot of people in comments, Hank, have suggested that we have Neil Tyson, umm, Neil deGrasse Tyson teach physics, which would be great...

H: That would be great!

J: I don't think he's available.

H: Yeah, he's a busy guy.

J: He's got a bunch of stuff going on.

H: This is a very time-consuming project that we do here. Okay, so I'm going to try to do this. There's no guarantee that it will work but we, ah, we have a process by which, by which we do this, so I'm just going to share one of my windows, and, uh, and then we will watch a video.

J: Hopefully.

H: Yup.

J: {in outtakes video} Oh...we're recording...oh God.
Hi, my name is John Green, and this is Crash Course World Histor-whoops! (laughs)

OW. Hi, my name's OW...my name is John Green, and I'm the host of Crash Course world history, and that hurt.

Hi there, my name's John Green, this is champagne in a plastic cup, and today, we're going to talk about Egypt, as you might have guessed from the hieroglyphics behind me. Pardon me, I'm drunk.

Hi, there, my name is John Green, this is Crash Course-I'm gonna do that again (laughing)

The fall of Rome, according to-ahh.

Hi, I'm John Green and today's...GOD.

J: {in hangout} Hank...did you just...go away? Hank...can you hear...Hank, talk.

(Hank and Katherine mutter inaudibly)

J: Now I'm scared because I'm alone in the live show.

H: ...and the answer is no.

J: Hank? Hank, I can hear what you're saying, just so you know. Hank, hi.

J: {in outtakes} Aw, I missed it.

Next week, we will journey to-mmm. missed it.

J: {in hangout} Oh, hello, again, Hank!

J: {in outtakes} Is it anti-feminist to never talk about women except when I'm talking about how their brutal...

J: {in hangout} This isn't going well. Can we exit...

H: I tried. Can you not hear me? (breaks up)

J: ...video. We'll upload it, we'll upload it so that you can actually watch it instead of seeing it in a series of apparent screen-caps. It's an episode of Crash Course outtakes that, um, that Stan put together. There's also one of Hank's.

Hank, you're a beautiful black screen right now.

H: Can you hear me?

J: Can you hear me?

H: I can hear you, but you can't hear me.

J: Yeah, I can hear everything you're saying. I could hear everything you were saying while the video was playing too.

H: (laughing) Oh, was I saying...

J: Yeah.

H: Did I say any curse words?

K: Yeah.

J: No, I don't think you said any specific curse words, but they were implied.

H: (laughs)

J: Um, anyway, is there any way that you can not be a gigantic black screen, 'cause it makes me sad.

H: I would also love to not be a gigantic black screen.

J: I miss when you looked like a Hank! That was my favorite part of the show...was when you looked like Hank.

H: (laughs) I also...I love it when uh.....I have such a good voice though, John.

J: Find a way to turn off the screen-share, that's the key.

H: Oh, no, I've done that.

J: Oh. You just don't have...is your camera not on anymore? Do you not have the little green light that I have?

H: My camera's on.

J: Oh. All right! Rock n' roll, man!

H: (giggles)

J: Um. I guess you should just put me up on the screen and then you will just be a voice.

H: You're up on the screen.

J: Okaaaay. It's just gonna be me from here on out, it seems like, so I will, uh...I don't know, anyway, so we both have, ah, we both have made, we both made special outtakes videos.

(John's voice played back very loudly from Hank's end)

J: Hank, that was very loud. Don't do that again. Um. We both have...we both have special outtakes videos for you guys, uh, that you can watch, um. But we'll upload them to the Crash Course channel or Vlogbrothers or something so that you can watch them instead of just doing it this way.

All right, so I guess I will ans...I will ask some more questions of the disembodied black screen that used to be my brother.

Hank: [laughs]

John: Um...um...ahhhh... do you do foreign subtitles at all, Hank?

Hank: Uh...

John: Some one asked it, someone offered to make Czech subtitles to Crash Course and said if we, if he made them would we use them? Or she?

Hank: Let me just switch over to me black screen so you guys can see me... [laughs]

John: Yeah, please don't.

Hank: Yeah, I mean, we, ah, we are actually investigating at the moment... [laughs at John dancing on screen]

John: Sorry, I figured, they can't see you then I'll do something funny on the screen to be entertaining, while you are talking. Do do doo do do do doo [singing circus type music]

Hank: Um, yeah, yeah, we are looking at, ah, at an application where, we're looking at creating an application of sorts that will allow us to streamline the creation of, of subtitles to our videos because that's something that we really want to, not just for Crash Course and SciShow but for all of the internet, to...

John: Right.

Hank: ...be, to have access to. Um, we're just not, we have always felt like there could be a much better system to do that, and hasn't been.

J: And the answer to your question, first off, all the World History episodes are already subtitled in English. The answer to your question, "would we use Czech subtitles if you gave them to us" is yes. Although we don't know how to use them yet, so we would have to learn how to use them, but we will. So yes. That is the answer to that question. Um, someone says that they're listening to dubstep while they uh, while they watch us, Hank.

H: Well that's okay, because our, our uh, manager of the office here listens to dubstep while he manages us.

J: Wow. Um...that's, that's, that's crazy. Um, I'm gonna ask you some more questions, Hank.

H: Okay.

J: You can also ask me questions now that you are, you are just a black screen.

H: I am.

J: Um, how much of your houses have been turned into video studios? [Laughs]

H: Only like a third or so.

J: Well, Hank's house is very small, because it's a green house. Not in the sense that it's owned by a person named Green, but in the sense that it is an, uh, eco-friendly house. Right?

H: Uh...I don't know about that.

J: I don't know, it strikes me as very green. You have like, bamboo flooring or something.

H: Yeah, it's uh, it's a, it's a new house. It is...it's fairly small, I guess, by modern standards... um...

J: Yeah, by modern standards, but whenever you go into like... That's one of the things that I've been really into, actually, when researching Crash Course. And I will let you finish in a moment, but, you know, since you're just a black screen right now, I-I own the video now! Um, but, uh, in researching Crash Course, I am always astonished by the luxury that we take for granted that was literally nonexistent in 99.9995% of the population until like 80 years ago.

H: Yeah. Well, yeah, when I went to Haiti and, like, we...I, like, went over to someone's house, um, and it was their, um, their bedroom, um, and there was...it was a two-room house, one of their rooms had a bed in it. You walked into the door--it had a door--you walked into the door and there was a bed and there was a desk and it was maybe, you know, 20 square feet. And then behind that, there was another bed and another desk and another sort of room, and then -- and this was a nice, like, this was a nice house in Haiti. And then out the back there was a pit toilet, and, like, that was, you know, like, a couple of people doing fairly well.

J: Yeah.

H: And, um, so it's always very strange to me when people refer to my house as small. [Laughs]

J: Yeah, no, I mean your house is not small, but it's small compared to most American houses, um.

H: Yeah, um, so I...yeah, you know, but we got, you've got the radiant floor heating and it's basically a refrigerator in there...

J: Right.

H: ...in terms of letting heat out, um, so we have to have an air circulation system or else we'd suffocate, um.

J: Yeah, yeah. That all sounds very fancy. I just live in a normal American house, because unlike you...

H: A very normal American house.

J: ...with your crazy Montana wilderness leftism, I'm an American. A regular, normal American. [Hank laughs] So, uh, long story short, I also converted about a third of my house into a video studio. Um, but my third is bigger. [Laughs]

H: Right, yes, um... One of...one of my bedrooms is a video studio, um.

J: Yeah, uh, my whole basement is and then I do some filming upstairs, as well. Umm...

H: But then, I would show you around our office and show you, like, 'cause right now I'm in- I'm in the Crash Course offices, this is not my house, um.

J: Yeah.

H: I would show you around if you could see me, but you can't.

J: Um, um, will you, um, will you look at some questions while-while you're there being a black screen, so that we can answer good questions?

H: Yeah, sure.

J: Um, oh, uh, Manu...uh, on Twitter has a really important question for you, Hank, which is that have you tried turning it on and off again?

H: [Laughs] I mean, I could do that, but then the entire Hangout would end.

J: Oh, uh, there's apparently already a cool app that Philip DeFranco uses for open source subtitles.

H: Oh, really?

J: Yeah, it's called, um, captiontube.appsbot.com. So thank you very much for letting us know about that, Christine. Um, uh...

===== *(40:00) to (50:00)* =====
J: Okay, Hank. Oh, someone wants Hank to join, uh, CGP Grey suggested Hank join the video on a third laptop, which isn't a terrible idea, um. Okay, um, so Hank, let's, uh...do you have questions for me, or should I keep asking you questions? By the way, we're answering questions on Twitter @TheCrashCourse, and also @realjohngreen and @hankgreen. There are a lot of questions about interns, Hank. I don't know if all these interns live in Montana or not, but there are a lot of them so I thought I'd ask.

H: What do you mean by interns? Our interns?

J: Do- Do you have need of them? There seem to be a lot of people who wish to become your intern.

H: Oh, um, yeah! I mean, we need people to help all the time, but I don't know...uh, we-we also would need an intern to have the capacity to hire and manage interns.

J: [Laughs] Yeah, sort of the biggest problem that we have right now is figuring out...is figuring out that, um. But yes, down the road, certainly, we do want to have interns, um. Uh, Crash Course Indianapolis is going to have an intern over the summer starting, uh, in a couple weeks, um, and I think that- that will be great for us. But, uh, I don't know- I don't know about anything else. Um, um... do you have any other questions, Hank, or do you want me to keep going?

H: I'm sorry, the reason why I'm not, um, answering questions is because I'm trying to fix the problem that we're having.

J: Okay, well then I'll-I'll answer some questions. Um, someone asks -- Nigel Prentice asks, "Hey, how can I score some 2D glasses?" So for those of you who don't know, my brother Hank invented the 2D glasses, uh, which are like 3D glasses except that you go to a 3D movie and you see that movie in a crisp 2-dimensions. Uh, you can get them at 2D-glasses.com, is that right Hank? Whatever, just Google 2D glasses, um, but yeah. Hank...[Laughs] I think it's...of all of the things that Hank has invented, and he has invented far too many things, 2D glasses are my favorite because they're extremely funny and, um, also astonishingly useful, so, most things aren't.

H: [Laughs in background]

J: I'm just gonna keep talking while Hank, uh, mumbles quietly to his team because apparently he's not figured out how to mute himself on video.

H: [Laughs] I did, I figured it out, I just undid it and then I redid it and then I undid it again and it was....

J: Yup, well Hank, there's only 15 minutes left so I'm not sure that there's necessarily that much purpose to getting your face back for 10 minutes. I'd rather have a high-quality conversation between me, my face, and you, a black screen.

H: Okay, let's do that.

J: Okay, great, so we'll just do what we were doing until you decided to try to make it work.

K: Why don't you just [inaudible]

H: Someone asked when I got a corgi because recently in a video I showed myself with a couple of dogs, a greyhound and a corgi. Uh, that was my greyhound. It was not my corgi, that corgi was named Abby and it sometimes lives in our office. It is the corgi of our technical director, Nick Jenkins, who you will sometimes hear me refer to, as John will occasionally refer to Stan. I will refer to Jenkins or Nick. Don't call him "Leroy." He doesn't like it.

J: [laughs] I do like referring to Stan, but it has to be said that generally, when I make references to Stan, it's because of actual things that Stan did or said moments before that was recorded. I don't know if that's true for you and Leroy, but, um...

H: [groans/laughs] Um...yeah. Uh...Yes, Nick is standing there the whole time while we're making those videos.

J: Wow.

H: So he'll be telling me to do things and I will invariably say, "Okay, Mom." [John laughs] Because he's always like, "Look into the camera!" And I...

J: A number of people have asked me to, have asked me to teach a creative writing Crash Course, which I can't do because I don't know how to teach creative writing. Um, I have no idea how to teach such a thing, but there are people who can do it and I admire them. But I know absolutely nothing about how to write a story except by, by doing it. Um, so I wouldn't know how to teach that. And right now we're focused on more, um, I would say traditionally academic subjects that're maybe undertaught or not taught as well as they could be at schools. Whereas I think, um, certainly at colleges...creative writing...there tend to be really good creative writing professors because there are a lot of writers who teach for a living, or for part of their living, anyway.

H: I've also got a question: uh, are we ever going to join forces and make an epic history of biology or the biology of history episode?

J: That would be good. We should do that.

H: I like that idea.

J: I like...I actually think that's kind of a cool idea. Uh, later on, when...you know, when we both...maybe in, like, the 30th week or something, when Crash Course World History is relatively modern and Biology is relatively human-focused, it might be really cool to talk about the relationship between history and microbes, or to talk about the relationship between, you know, evolutionary biology and contemporary history or something. That might be cool.

H: I'm also really interested in the actual history of science. Um, like the men and women who basically created the institution of science and the people who created biochemistry and sort of founded of genetics and...a lot of these people...and...we do a series on SciShow called "Great Minds"...Is that what it's called?

M: Yep.

H: That's what it's called. And that's been really interesting to do. We...I don't...I know this is written, but I don't know if we've recorded it yet, but we did a great episode on Fritz Haber. Was that his name, Mike?

M: We also did the Marie Curie one, right?

H: The Marie Curie one is, like...was featured in the New York Times and, um, on Jezebel, which I find equally impressive.

J: [laughs] My two favorite news sources.

H: [laughs] Um, and so people obviously like those a lot, but Fritz Haber's a super-interesting dude because he basically saved billions of people by trying to kill people for the Germans in World War I and then went on to create chemical weaponry, and his wife was so despondent that he was only interested in killing people that she told him to stop or else. He said, "No," and she shot herself to death.

J: Wow.

H: And then he went to a party!

J: Wow. Yeah, I mean, they-they-they are, some...you know, the people who have a big impact on history tend to be maybe perhaps a bit eccentric. But I do also think that it goes both ways, that we also sort of look to the eccentric stories and put them at the center of history. You know?

H: Well, I mean, the dude figured out how to fix nitrogen, which doesn't sound that impressive but he...it basically made it so that all of Europe didn't starve at the beginning of the 19th century.

J: Right. But...but I'm just saying, I'm just saying there were lots of historical actors, important historical actors, who weren't crazy.

H: Yes. That's true.

J: I feel like it's an under-appreciated fact of both the history... of both history and the history of science like...Cantor, for instance, hugely important mathematician but, like, these days, famous mostly for devoting the second half of his life to trying to prove that Shakespeare didn't write Shakespeare.

H: Right.

J: Um, and that seems to me, it seems to me a little unfortunate that we end up conflating genius and insanity. There does seem to be a bit of casual relationship between the two.

H: I, ah, I would like to see some data on that.

J: [laughs] Well, I mean, I, I, I know a lot of crazy people who aren't geniuses.

H: [undecipherable talking under John] What?

J: I said I, I know a lot of crazy people who aren't geniuses. Um...

H: It's true.

John: Including myself, um..

H: It's true. I think what, what we really need to do is, is sort of figure out the per-capita level of crazy.

J: Right, um...

H: It's prpbably pretty high.

J: Yeah, I don't know, I mean I think it's probably pretty high. For Hank, besides the AP Curriculum, how do you determine what to talk about in the Biology Crash Course videos? Well first he chooses what's sexy.

Hank: That's true actually!

J: Really?

Hank: Ah, we try and find things where we can have the title of the video have the word sex in it.

J: [laughs]

H: Which is pretty easy in biology.
Um, no, it's, ah, it's ...

J: Keep it classy, Green.

H: It's the stuff that I really enjoy, that, um, hehehe we like to have it all, you know it's ten minutes long so there has to be kind of a narrative, um, and so we try and, and when we're figuring out what to talk about to create a, ah, a story around it, but generally we do choose a lot of it based on exact, like, those, that exact, criteria, which is, you know we're trying to teach a course here, and so there's standards that have been decided upon, and I may not agree with them, but we're going to agree with them, because otherwise we're not helping people. So..

J: Right. Yeah, I think it's important, it's important to note there that, um, Hank and I, both, when we're making these videos and really, and also in SciShow and, um, and in Vlogbrothers too like, we do look for narratives. We look for ways to tell stories, like even though I was sick yesterday, and I'm still quite sick, I apologize by the way if I'm off my game a little bit, but my, my head is pounding with tiny chicken poop.
Um, even then, um, I try to make a, a, a story about Sarah calling me, and telling me that I had to vote and going to vote, and when, when I'm making history videos I think about that a lot, I think about the fact that this is a show, um...

===== *(50:00) to (1:00:00)* =====
J: ...and history is a narrative and that's one of the ways to make it engaging and to, to, to make the learning process, I think deeper in a way, is if you can engage with it as narrative and not just engage with it as a set of facts that appear to have been, like, laid at your door step that you now have to memorize, um, so.. for instance, a lot of people have asked if there's any way that we could ever make a Crash Course about math, or math is just "too boring". Well, the truth of math is that it's not boring at all, as you know if you watch Vi Hart videos. Um, math is really exciting, and it's also in many ways, very narrative. I mean, Hank was talking about the history of science but the history of math is-is, equally exciting, and, uh, and in the same way that the history of science is marked by these, y'know, huge discoveries that then lead to these big consolidations of knowledge, the same thing happened in the history of mathematics. And, y'know, talking about that from a historical perspective turns it into a narrative and I think it makes it a lot more fun to learn about, so I do think there is a way to teach math and to have it be really interesting.

H: I have a question from moymoymccardo. It is, "Michael Aranda is awesome!!!"

J: (laughs) I wasn't aware that that was a question. Um, I've never doubted Michael Aranda's awesome.

H: (laughs)

J: Um. Okay Hank, people...eeh...Hector Hernandez says, "Where do you get your information from in Crash Course and why don't you cite it?" It's a good question.

H: Do you not cite it?

K: Biology does citations every video.

H: Katherine, who is in charge of citations, says that Biology does citations on every video, so this question is clearly for John.

J: Well, biology, yeah, the biology part is really well cited. Um. We don't-we don't cite things because, um, I wouldn't know how to begin citations. So for when we begin, we talk-we've done a couple of videos-I don't think any of them have uploaded yet-where we talk about sort of deep reads of a book, a famous book of history. So we'll take, y'know, one of these modern historical classics and we'll use it as a way into talking about some historical phenomenon like talking about the Columbian Exchange, for instance, um, which was the exchange of microbes and people and plants and animals between the-Europe and Asia and Africa, and the Americas. Umm... and in that we're going to cite a source because much of the-much of the conversation that we're having is about a book. But when we're talking about sort of these broad historical, um...trends we don't cite sources because they're not really...that source-y. But I guess we could do better citations and that's a good suggestion, and we'll look-we'll look to it.

H: I do-I will tell you that it is a pain in the butt.

J: Well, um. That's the other reason we don't do it.

H: (laughs)

J: I don't like to do things that are *hard*. Um. Yeah, do you have other questions? We have five minutes left in our big show, Hank, that we're not going to be able to show, and we have to upload it. Do you think-can we upload it to, ummm...

H: What we'll do is, uh, is what- we'll have it uploaded to Crash Course as a video that is unlisted and we will tweet it from the Crash Course account.

J: Why can't we list it? Why can't we just show it to the people?

H: I don't know, 'cause maybe in the future we will want to- 'cause I don't- 'cause you have a policy of not putting-

J: Well, we can unlist it- we can unlist it later.

H: What do you mean? What?

J: We can- we can just make it unlisted later?

H: Oh, I see. Okay. I think-

J: That's gonna work. Yeah let's do it. We're putting it up!

H: Okay.

J: I-I- Hank, I am the one with the face here. I make the decisions.

H: (laughs) The face is in charge!

J: The face makes the show!

H: Well, let's...

J: Well, you used to have a face. I remember...now I'm feeling nostalgic for early in the live show when you had a face.

H: Sorry, I know.

J: Those were the best parts.

H: When I had a face and I wasn't just a disembodied voice.

J: Y'know. I always-I always get nostalgic for the recent past. In this case it's thirty minutes ago when you had a voice. Um, but we will, uh. Maybe we'll upload one gag reel now and one next week. What do you think of that, Hank?

H: That sounds like a good plan.

J: All right, so we'll upload-we'll upload mine that you sort of got to see now, and we'll upload Hank's, which I have to say is even funnier, and if anything....the thing that's surprising most about watching your gag reel, Hank, is watching how often you had to be bleeped.

H: (laughs) I figured that's what you would say, just then.

J: Umm...It didn't surprise me how often *I* had to be bleeped (laughs)

H: Uhh yes, I uh

J: Yeah.

H: It's a dirty time, there in the studio.

J: Well it's-for me at least it's very high pressure, because I know we only have...I know we only have like, y'know, six hours or whatever to film two episodes, and I get really mad at myself and I can't say things right. And, uhm, the way that I deal with getting really mad at myself is saying words I shouldn't say.

Michael Aranda: I have a question for both of you that's kind of related to that. Before you guys did Crash Course and SciShow, you both mostly just filmed by yourself, in a bedroom or whatever, without other people around, so what was the transition like, having to go into a studio, where all of a sudden you've got someone working the camera, and someone doing script supervision, and y'know, for Hank there's like, snake handlers in the room or whatever.

J: Right. (laughs)

H: There *were* snake handlers.

J: Right. I mean, one of the keys to my success is no snakes,

H: And what? No snake handlers?

J: I don't do well with snakes and I don't do well with people who do well with snakes.

H: Oh. Um, yeah, it was definitely a transition the first time I went into the studio, and I was like, "Okay, there's people in here with me." I was not very natural, I was not very comfortable. Umm. I have gotten over that, it's still definitely more pressure than filming at home, and I definitely feel drained afterward, and I'm like, "Oooh, I need to go to sleep now", and-oh, good I'm glad that you have that. We have a wrap-up question, an excellent wrap-up question from CGP Grey.

J: Well can I first-can I first answer that question that Michael just asked?

H: I thought you did, already.

J: No.

H: Okay, well-

J: I-I only had a joke answer. The real answer is that I didn't feel awkward at all but it's because it's Stan and Danica. Like, the other day a reporter for the Chicago Tribune was watching me record and I was super bad...umm, and not in the good way, but in the genuinely bad way. Umm, I was really awkward, and I was talking too fast and I couldn't get my lines out and it was really interesting, because I just, I had a level of comfort with Stan and Danica immediately that I just don't have with most people and it was a good lesson, which is that, um, I can't do it in front of just anyone. It has to be the right um, the right people, so it's because I'm friends with them and I like them, and they're nerdfighters, and it doesn't feel awkward. If it feels awkward, if I feel like I'm being watched, I get very bad.

H: Yeah. Yeah we had like six people in the studio the other day because we had a bug handler, and he came in with some giant bugs.

J: Bug handler!

H: Really cool...

J: Wow, I do not like bug handlers.

H: Um, some giant rhinoceros beetles that are like the size of your fist...

J: Shut up.

H: (laughs) and they had- and we brought in a-he had a pupa, he had a rhinoceros beetle in the pupa stage...

J: Aw God...

H: ...in a hard casing but it's like writhing around. it's sooo cool.

J: Ugh god. You how know I know that Henry is my son, Hank?

H: What?

J: Before we get to the wrap-up question can I tell you how I know Henry is my son?

H: No.

J: We saw a beetle the other day, and we were walking in the woods and we saw a beetle, and Henry said, "Daddy, beeeetle!" and I was like "Oh God!" and I pulled him away, of course, because y'know beetles are very harmful potentially.

H: (laughs)

J: And about five minutes later we were just walking along the edge of the White River and Henry looks up at me and says "Daddy, beetles, scawwy!" (laughs)

H: (laughs) I was, ah, I wasn't particularly comfortable with the rhinoceros beetles but I was very excited by them.

J: Yeah, I mean this beetle was the size of maybe a roach, but even so I was terrified.

H: Yeah.

J: Aaughh...pfwoarrgh...alright so moving on, what's the wrap-up question from our friend CGP Grey?

H: Our friend CGP Grey says, "If you're looking for a wrap-up question, where do you see Crash Course in a year or two?"

J: That's a great question, I'll let you handle it.

H: No. Just a black screen talking.

J: (laughs)

H: Umm...I ahh, I think that there are multiple paths for Crash Course, and they all excite me and some of them are smaller scale and some of them are much larger...um. What I'd really like is for there to be broader infrastructure behind the videos where it's not just a video, but it has a place where it lives, there's a sort of a better question-and-answer system than YouTube comments, there are potentially, like, worksheets, or... other resources whether or not they're physical or not. Umm, ways to, ways to reemphasize the information you've got into your head during this Crash Course episode because watching a show is one thing, but watching it and taking a worksheet or taking a short quiz to reinforce it, and then a couple weeks down the line, doing that again, you really end up with a lasting knowledge of the topic, and that seems like the sort of thing, like an innovation on top of an innovation...

===== *(1:00:00) to end* =====
H: ...that could really be powerful. Umm so that's something that I'd really like to do, but as far as it being significantly different than it is now, just more of it, hopefully.

J: Yeah. Yeah, I'd like there to be more, I'd like there to be more teachers and more courses and more, more stuff, that's the first thing that I would like, and I would also like, what Hank wants. Um, and I'd really like to expand the idea to include background on historical events, so for instance, when you see the Greek debt crisis, or when, y'know, Greece is having a debt crisis, which these days is usually, Crash Course could provide a place where you could go and get background both on debt crises and traditional sovereign defaults over the course of history and how that generally affects national economies, and whether austerity historically has led to faster recoveries than defaults, and questions like that, but you could also get historical background on Greece's economy, or if you're looking at the Syrian riots. Not riots, I should say revolution. But you can go and you can get background on the history of Syria over the last hundred or two hundred years that will allow you to have a better-formed opinion about news stories that are going on today. So I see that as within the idea of Crash Course and what Crash Course is really about and what we can do well. So I'd like to expand it into that as well.

H: That's wonderful. Umm. This is an exciting thing that we're doing together, John.

J: Aww, thanks. I hope so, I mean, they decide if it's exciting, not us. But we are having fun doing it and it's a real privilege to be able to do it and we feel really, really lucky so, uh, thank you guys, all for watching, and thank you for being awesome, and Hank, thank you for being a black screen so that I could be the star of the show, that was very generous of you.

H: (laughs) Yeah, thanks to all 4,152 of you, sorry to leave you in the cold, but we will still be on TheCrashCourse on Twitter, and you will see our first outtakes reel being uploaded to Crash Course, youtube.com/crashcourse momentarily.

J: All right. Don't forget to be awesome!

H: DFTBA.