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Fluidigm Corp at UBS Global Healthcare Conference

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CORPORATE PARTICIPANTS

Stephen Christopher Linthwaite *Fluidigm Corporation - President, CEO & Director*

CONFERENCE CALL PARTICIPANTS

Daniel Gregory Brennan *UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences*

PRESENTATION

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

Great. Well, welcome. Welcome to day 2 kind of late in the morning of the UBS Global Healthcare Conference 2019. Pleased you're all here. I'm Dan Brennan. I cover the life science tool diagnostics pharma services. I'm pleased to be joined on stage by Chris Linthwaite. I hope I pronounced it right, Chris. I know we've done many calls together already during my initiation process. Chris, CEO of Fluidigm. And in the audience, we have Agnes Lee, who's IR.

So listen, I have a series of questions prepared. Would love any audience participation here who's willing to step up. So I'll look up during the presentation.

Before we get started, just you could go to UBS website at www.ubs.com, where you could see the analyst disclaimer information.

So I thought I kick off with just a high-level question, Chris, if you don't mind, and I know you've been with the company now a couple of years and certainly has been orchestrating and putting meaningful turnaround on many fronts.

QUESTIONS AND ANSWERS

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

Just maybe speak to where your priorities are today and if you would possibly maybe a baseball analogy kind of what inning are we in of your kind of putting your mark on Fluidigm.

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

Yes. There's a lot you packaged in there. First of all, thank you very much for the invitation, Dan. I'm really glad that we're starting to get a chance to collaborate and really appreciate the questions you've been asking as you've initiated coverage.

So I'm actually a Warriors fan, so I was kind of inspired yesterday by watching the Warriors advance through the finals. I would say this is no longer an inning to inning story. This is a totally different season. Just like every round in playoffs is a whole different setup and whether it was KD that carried in the first quarter for the first series getting past the Clippers and onto the Rockets later, so on and so forth. Fluidigm itself is not a one-inning story. It's almost a different game that's being set up each year. If you look back, we've grown 19% this past quarter. We had 17% the quarter before that, 17% before that, 11% before that. I no longer even -- we don't even use the words turnaround internally in the organization. That was a different round of the playoffs, so we're now at a different stage of the game.

So I really feel like the way the foundation is set for the business is quite different than it was. I've been using the analog, the first round of the playoffs. Our job now is to accelerate our growth rate. It's been focused on how to do smart growth, accelerated double-digit growth with good operating leverage and, more importantly, just figure out how we're going to make sure our science and our tools are part of that indispensable part of the kit, the technologies it's using for biomarker discovery, for therapeutic drug selection and ultimately like to be part of that whole health care continuum including routing testing. And that's where we're trying to head as we advance to the playoffs.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

Excellent. Maybe before digging into -- I think the road map is going to be -- we'll go through a bunch of different product categories that Fluidigm has. And with that, I think -- well, I don't know if you have some view towards the future growth and profitability.

But before doing that, maybe just in terms of the quarter itself, obviously, it looked like a good quarter. Certainly, the mass cytometry business, very strong. Microfluidics, a little bit weaker. But near term stock reaction, stock has been -- done tremendously well as have some others. But nonetheless, possibly the guidance for Q2 maybe caught some people by surprise. Possibly, like you said, there could be kind of a sequential decline in growth. Like how do we think about your philosophy and guidance? And how do we think about that kind of Q2 outlook?

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

Well, I think the most important thing, what we really try to establish when I came into the company in back half of 2016 is really a say/do culture: we say what we're going to do, and we do what we say.

In the case of the first quarter, really pleased that we retired more than $150 million of debt, and we've really fully delevered the company and transformed our economic flexibility. We delivered 19% growth, and I think we did exactly with the alignment around the values, the economic or the metrics that we'd set out for ourselves in the quarter.

When we look to the second quarter -- and so I also told you a story we had 19% growth, 17%, 17% and 11%. You take the midpoint of the guidance for Q2, we're right on continuing double-digit growth trajectory.

I'd like to say that I'm clever enough to tell you the exact percentage we're going to deliver, but we're in a capital goods business. Our price points for some of our instruments are quite considerable. Those list prices for those instruments are $0.5 million up to $1 million for a system. So that's off by 1 or 2 systems and create a lot of variability. And so if you think back to that say/do, we want to make sure we give a range. In which we feel very comfortable, we can deliver against.

I feel very comfortable where the trajectory of the business is right now, the long-term demand for our technology. And we also just added a new Chief Commercial Officer. And it seems very prudent to us that we kept a very consistent range. We're continuing a very consistent trajectory of double-digit growth. And so if there's certain optics, I'll let others like yourself to decide how those optics come out externally. Most important for us was establishing this culture of execution.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

Okay. Great. So I want to move on to kind of mass cytometry franchise. Obviously, it's where a lot of the explosive growth is coming from. So maybe give us a big picture of you of kind of that business, kind of what the opportunity looks like. Obviously, well not obviously, be put on your slide deck, which I think was posted yesterday or the day before.

You now have kind of a TAM analysis in there. And you know TAM and the total TAM today and looking out, I think you look out for -- I'm not sure the number of years you look out in the future, but maybe speak to what underpin that analysis and how we should think about like where your mass cytometry product portfolio fits within that.

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

Yes. Thank you very much for the question. So part of -- going back to that 2016 vantage of that round of the playoffs, it was really about we needed to establish credibility as an organization. I think we took a very conservative approach to both how we looked at our total addressable markets, and it was really important. And we are the pioneer and the first mover in the imaging, this high-content imaging space. And so it wasn't clear to us really how those dynamics were going to play out. And given our history in a few other markets, when there's uncertainty of a technology development in the market of development, we took a very conservative approach on the total addressable market.

As we've looked at this, we've seen our own funnels growing, and we're seeing the proof points come out. And I'm going to give you a lot of examples of proof points here in the maybe coming few minutes. We realized that the total addressable market is much bigger than what we realized. On a technology basis, you could look at it in many ways. But from a technology perspective, we have 2 core technologies: this thing called the CyTOF technology or mass cytometry, which has various applications, some are suspension-based and others, imaging; and then we have microfluidics. Historically, we looked at microfluidics as being only genomics and high-throughput genomics. But in fact, one of our fastest-growing applications on our microfluidics architecture is proteomic-based.

The science itself is transitioning, but we're no longer looking only at genomics or only in proteomics. We look back 20 years ago and 25 years ago, we had these very specific analytes and very specific modalities. There's beginning to be more of a co-mingling of these technologies.

And if we look at beyond the technology, it's really a second derivative. What are we trying to solve? What are the kind of big healthcare-type questions we're trying to look at? We think one of the biggest ones right now is the immunome, this concept of the immunome. It's inherently a question of understanding immune response and immune dynamics within biological tissue. It requires tissue and contextual information. It requires cell-specific observations, and there's also circulating signals that are occurring throughout biological organisms. There's a need to do protein detection, gene expression information and DNA on all 3 of those. We're sitting in the mix of this incredible what we think probably is a north of $3-billion market opportunity growing at 14%.

The total addressable market for Fluidigm is probably north of $1 billion of that immunome market. And it's one of the largest markets you never heard about because most of us talk about our technology basis. We talk about what's the value proposition of mass cytometry or in imaging or in gene expression or genotyping or sequencing related to that. But effectively, many scientists and researchers are using many different technology modalities to try to understand and create a composite picture of the immunome, and that's why you're seeing these big immune profiling programs being stood up and why immune cores are being stood up around the world. And we also see these massive investments occurring in drugs that are immune response-related drugs. But these are all coming together.

And creating from a tools perspective, I think there's totally new transformational total addressable market, which we think we're very well positioned to grow at a multiple of the underlying market. Our technology base is also going to be more competitive than the other technologies that have a point of view on the immunome. That our mass cytometry technology, our microfluidics technology may be poised to grow at a multiple 1.5 or 2x the rate of the underlying market in the coming years to come. And I think it's up to us over the next -- looking at the playoffs series, there's not enough playoff rounds, to summarize, 10 years. But if we look over a 10-year market period, we think this is really poised to double and maybe double again. And we're really well positioned, and we got to make sure we exploit every different direction on how to make sure our technology suite remains part of the equation for the next decade or more.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

Could you share a little bit of insight just on the TAM and then move through in terms of like what are some of the things that we could latch on there? You talked about the sales funnel earlier, and there was a lot of questions on the conference call recently about just getting some visibility.

Because your point, a couple of products can really move the needle, but yet you have this big market opportunity. Like what are some of the things you looked at to come up with that number? Was it number of labs? Was it competing technologies? Was it -- just help us think about kind of what kind of underpin that, that might provide us some insight to think about the trajectory of your growth.

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

Yes. There's a lot of ways to deconstruct probably more than it makes sense for this particular audience today, but one way to look at it is biomarkers and the rate of biomarker discovery that's going on. Yes, it's true. You can look at everything from leading indicators like publications. You can look at the number of publications that are going. On our technology alone, we now have exceeded in mass cytometry over 700 publications. In just the first quarter, we had 75 peer-reviewed publications. So it puts you on a 48% annualized growth rate right now. There's an explosion in work that's being done that's related to questions of the immune system. And those immune system questions are coming across hundreds of different diseases: reproductive health, immune sciences or immunology, immuno-oncology, diabetes, Crohn's disease, neurological disorders. So this explosion of research that are looking for these controlling questions, you're going to see the aggregate amount of funds that are going in there. That's a pretty easy way to look at it.

The second is the number of biomarker programs. How many different -- how much -- if you'd look at that trend line from 2013 or 2011, the number of drugs that had biomarkers and single biomarkers, how many drug programs now have a biomarker -- programs that had multiple biomarkers tied to it? How many combinatorial therapies are arising? These are all ways to do triangulation on it. There's a number of flow center cores. We can look at the installed base of systems, so you know about that data better than I do, the number of

other technologies and their rate, the number of technologies have been adopted, the number of sequencers that are being placed, the number of mass specs, the number of flow cytometers, so they continue to be.

What we needed to figure out was what percentage of the research of the analytes were being pulled off of those systems that were being looked at immune questions. So we looked at clusters and patterns in publications, in the literature that kind of gave us a good proxy of the frequency of those questions being asked. Things like tissue are all new and the imaging is brand new. So that's one where it was more difficult for us to update the market, and we had to take another approach to looking at that.

Now meanwhile, we have our own funnel. So we have more than 50 commercial systems that are now in place. And so since just the fourth quarter of 2017, we've been able to have more than 50 systems, commercial-grade systems that were installed. That's our install base -- active installed base as of the end of 2018. Where at the end of '18, we had more than 240 mass cytometry system, with the core-detection system.

So we moved from a peripheral technology to now we're seeing larger numbers, and we're seeing more patterns. We're seeing more multisite installations. We also have cancer centers. So we track the number of cancer centers, the number of consortia that are being created around the world. And we've created maps by geography and country on what are the most important centers that we need to be in, where clinical trials are -- and you can talk about clinical studies and clinical trials and the rate of our exposure to those. So we can see that in rearward facing, on people who have submitted data as a correlate or as a piece of data using our technology. So we're seeing those rates begin to close or to build, and so that's allowing us to create more of a composite picture of what the total addressable market is and to give us a pretty good proxy or triangulation on the different ways the market is starting to grow around us.

And meanwhile, we have great consumables growth. As you can see, we have recurring revenue stream. We have new instrument placements that are occurring at a faster rate from quarter-to-quarter, and our consumables pull-through continues to grow. And so if you look from last year when we offered between 60,000 and 65,000 was the target pull-through between the mass cytometry system, we increased that guidance by more than 20% coming into 2019. That gives you another proxy where the market is headed.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

Great. So maybe you can spend a little time on the CyTOF, which you've almost got 250 placements as of, I guess, I think that was at the end of the year, in December.

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

It was end of December of '18.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

Great. So maybe just speak to a little bit there, the uniqueness of that product and the success you're having in placing that, like when you go in and place it, like the types of customers who are buying a CyTOF. And what is the most recent rate of the growth, do you think it's linear? Are there reasons why that growth rate might deviate? And why would that be?

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

Yes. That's another good question. So another derivative of why the total addressable market we think is accelerating is in marketing parlance, you have the early adopters. And our technology, certainly our mass cytometry technology, which I will highlight is in our third iteration now. The systems not brand-new technology, but we're in a much more robust third-generation system is we were selling it at APAC. So we're selling to the richest labs, the wealthiest, most financed groups into the flow cores, into the super principal investigators at some of the super research centers. But we've seen as a palpable inflection point, we're beginning to penetrate more into the mid-tier cancer centers and even the noncomprehensive cancer centers in the United States, and they're realizing this is critical to have in their kit. In the pharmaceutical companies who are now getting more penetration deeper in the pharmaceutical companies.

We're getting expansion in geographies outside of the U.S. We've seen accelerating growth in Japan. We've always had strong growth in China. We're seeing that continue. Fantastic growth in Europe for us in the major Western countries. We're now mapping to the hospital systems, and we can see we have this initial penetration. In some cases, we only have a handful of systems. We're beginning to see a

significant trend in double- or multiple-system placements. And this is giving us insight to what the total potential could be for the number of systems that we could have in there.

We're moving from the early adopters to the early majority phase. We think we're beginning to cross the chasm both in the terms of the size of the funnel, the complexity of the funnel, the nuances and the types of names in the funnel and even their funding sources for how they're paying for these systems. These are all things that are giving us clues that we think the technology is moving again in that early adopter phase, and we're doing things to help that.

So for instance, we announced at the American Association for Cancer Research this human direct immune monitoring panel. So we took what was in the first generation, -- it was very early days for our technology. You had to either bring your own antibody and we sold you a label and detection kit, or later we begin to pre-conjugate antibodies and sell that as library that you could order.

The natural evolution is looking at patterns or clusters of the most common questions that are being asked. There is no common consensus in the human immune monitoring panel to develop somewhat like a sequencing profile or targeted sequencing panel. There wasn't an equivalent in the protein space. I can tell you the reasons why is because flow cytometry didn't have the reproducibility to do that.

Our mass cytometry technology is one of the first that allows you to look at highly multiplex pieces of measurements and markers. We could pre-titrate those into a single tube. We built a drive down version of that, that has a long shelf life and storage. Then we matched that with algorithmic improvements that allows you to just add blood and in 5 minutes get an answer. In what was a couple of years ago, it might have been a multi-week or multi-month experiment to develop the antibodies, to put them on tests, then to interpret the information and get insights. Again, it was multiple months. We can now talk about doing that in hours to minutes to have those answers. And it's a 17-page report with internal quality standards. This is moving it towards the beginnings of what could be the potential for routine testing.

We've also done reproducibility across the systems. That's why we've invested in 1345 and design history files to develop our systems, to envision a future in which this becomes standard kit or the backbone of developing these human immune profilings. That will be a key data point in the treatment decisions. We hope, we aspire to be part of these key treatment paradigms in the future.

So early days, biomarker discovery and then now clinical studies. And then we're beginning to see the first of clinical trials. And so this is very exciting about where we think the total addressable market can move from these early adopters to the early majority.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

And is it the publications? Is it the awareness? Is it technological changes that you made or improved on your third generation? Is it just seasoning commercial execution? More cells, blood or a combination of them all? Like what would you point to, to the extent we would see a bit of a pickup further from what you've already grown on your CyTOF business side? Which of those factors are kind of enabling that?

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

This is a kind of fun conversation in the sense that my background and others in my team, we came from the sequencing world. So we were next-generation sequencing people before that. We were in real-time PCR before that. Sanger sequencing before that.

We saw the power of networking effect. It wasn't always absolutely the very best technologies, thats when it helps you become the best technology. And certainly, I think we have a heck of a good technology, but you can never just survive on one dimension. You've got to prove scalability and whether it's in the dimensions of throughput, ubiquitous, the ability to interpret that information and store that information, the ability to access reagents, the access to field service engineers and field application specialists, the power of the cumulative -- setting quality scores. I think Illumina did a genius job in setting and redefining genomic quality scores, given that even if their technology was not the most elegant or the best technology. And others who have come along with better ideas haven't actually been able to supplant them. They also benefited from the networking effect. And that's part of why we are very focused, and we believe there's the beginnings of a landgrab that's occurring in this industry, on our segment of the industry, and we intend to be a major power

player in that landgrab. That's why we reinforced 240 systems generating pull-through. We don't just talk about the number once we've sold. These are systems that are active systems.

In addition, we talk about a networking effect, the imaging technology. We have more than 50 imaging systems that have been installed and commercially installed. We intend to capitalize on this opportunity. We'll make improvements. We'll sell against that install base, and we're going to expand the addressable market segment by getting new placements. We're going to make it easier to use. We're going to offer more panels. We're bringing in software content from third parties. We're building a whole ecosystem. And then as the science proves out how powerful this is, wield on the business elements to make ourselves, we think, an indispensable part of this industry.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

And so moving over to the imager before we move on to microfluidics. So the imager, when you come out with this new TAM analysis, could you give us a flavor there as well since it is more of the kind of the newer product, if you will, and maybe not as (inaudible) as tight -- not being like those tight -- but there's a bunch of private companies that are trying to work at imaging spaces well, but you're clearly a first mover.

Speak to us about like what the opportunities on the imager from this 50 placement opportunity today. And kind of for you to capture that opportunity, are there advances that you -- that we should expect to see possibly on further improvements to what you already have out there today?

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

Absolutely. I mean we're not going to stand still. No technology survives off the first-generation system alone. We do not make forward-looking statements about -- we have not historically made forward-looking statements about where our technology roadmap is going. As a first mover, I think it's actually incumbent upon us to be even more demure about which dimensions we think are most important.

But I can tell you that you go down a list of things that can be done, whether it's speeding up the instruments, reducing the over time in processing, creating more content related to the platform, getting more of an ecosystem and software. These are all things that are very solvable problems and are things that we're working on to move the technology forward that's going to help address and expand the addressable market.

I will speak to what -- we think the market is going to be so big, and I think I know you do, too, that there's going to be many different technologies that are going to go coexist inside this emerging market segment. I don't know all the different use cases that are going to appear. At this stage, it appears like there's more likely to be more complementarity than there is going to be more direct competition. In certain periods of time, there may be a competition for the specific dollar available in the lab trying to acquire that benchtop, bench space, that lab space.

But fundamentally, there's going to be a need for multiple technologies. And I think our technology is as well positioned as any to be the industry standard. It is the industry standard commercially today. I think for technical reasons, we're going to be a single-cell-based resolution that we have this level of sensitivity that no one else has today, this level of infrastructure. Our commercial reach is the strongest in the industry, and we continue to be -- certainly intend to continue to leverage that commercial reach. But I think there'll be others. I'm sure they'll be complementary in use cases going forward.

The questions on co-detection, there's going to be a lot of things. The market is going to evolve over the coming years, and I think we're just really excited to be in the middle of this because there's microfluidics, too. We also have a lot of shots on goal in microfluidics on our platform, too.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

We can spend as much time on that as the remaining 4 minutes, but just in the interest of kind of covering some of the other basis here, maybe we'll jump to microfluidics.

It's not an easy business to diligence, you got a bunch of different products. Obviously, you stabilized the C1. But just trying to get -- I always think about both the instrument and the pull-through. I think the pull-through during my diligence, it sounds like you guys are pretty constructive about the ability to create more tailored-content, find the right customers, drive growth there. So maybe speak to how we think about the pull-through going forward, but at the same time, how do we think about the instrument base. And can the C1 stabilize? But just collectively, is the installed base going to continue to decline? Can you actually stabilize that and grow it?

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

I think from your perspective, yes, diligence on the microfluidics has got to be one of the most complex. We're talking about a very large addressable market. And in fact, we've actually just recently increased the size of the addressable market, we think, for our microfluidics platform, which should only set expectations higher. Our intent and our belief is this business can and will grow.

What shifted is it's a little bit nuanced. I think I talked about this a little bit early on. Our microfluidics technology is applicable beyond next-generation sequencing alone. It serves the real-time PCR market, particularly in genotyping and gene expression. It's useful in agricultural biosciences and others that are actually not relevant to what we've been talking about, but it's actually quite a strong value proposition. And proteomic and this protein detection. And you're seeing us primarily being used by a company called Olink, which has developed a menu, I think, with more than 14 different panels for biomarker discovery on our platform.

So our fundamental shift in the microfluidics strategy has been, one, we couldn't live -- we should not be a pure research use only. You come with whatever you'd like to work on. We have that capability. But it's incumbent upon us to recruit more OEM partners and content partners that will help us build menu that goes on to our instrument. We built systems, iPhones, et cetera, without building a lot of content on top of it.

So we have a certain vector of our investment profile, which is building our own content, giving you ready-made content to take advantage of the pull-through, to take advantage of your installation, your purchase of a system already. We've announced things like the sample identification, sample ID genotyping solution. We have our advanced immuno-oncology panels. We have 2 more I/O panels or immuno-oncology or cancer-related cell tumor panels, infusion panels that are coming out here very shortly in this quarter. We're adding menu to go on to get better utilization in the system. In addition, we recruit partners. So we have a partner, for instance, in China that's been taking our system, our Juno, which is our library prep solution, match that with our Biomark platform. They're taking it with their own content strategy through the Chinese FDA. They're going to access market segments that we cannot access today.

We're also targeting large labs in which our fundamental value proposition in the classic genotyping and gene expression genomics space is the reduction of the microfluidics architecture, reduce the 2 most expensive components of your experiment: the reagent component and the labor content. And we didn't actually fully maximize that capability. We moved on to high-tech concepts that we spent a lot of time talking about in the beginning. There are some fundamental economic advantages that we can unlock, and so we're going after big whales that we can help them with, and these are contract research labs, and we could help them with economic improvements of their operations. And they're always trying to find things to do cheaper, better, faster. It sounds like a little bit complex. We're throwing a lot of things at it, but it all starts with this large addressable market. We have a strong value proposition. We just need to focus with the channel partners, with content strategy and informatics to go after that market.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

Great. Well, with that, we're actually just about out of time. We're actually out of time. So Chris, thank you very much for being with us here today, Agnes as well. And hope you all enjoyed the conversation, and hope you enjoy the rest of the conference.

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

Thank you. Thank you very much.

Daniel Gregory Brennan ***UBS Investment Bank, Research Division - Senior Equity Research Analyst of Healthcare Life Sciences***

Thanks, Chris.

Stephen Christopher Linthwaite ***Fluidigm Corporation - President, CEO & Director***

Thanks, Dan.