

GT debugging

Session du gdr-gpl

15 juin 2021

Steven Costiou, Benoît Combemale

Histoires de bugs - épisode 2

The 500-mile email

<https://www.ibiblio.org/harris/500milemail.html>

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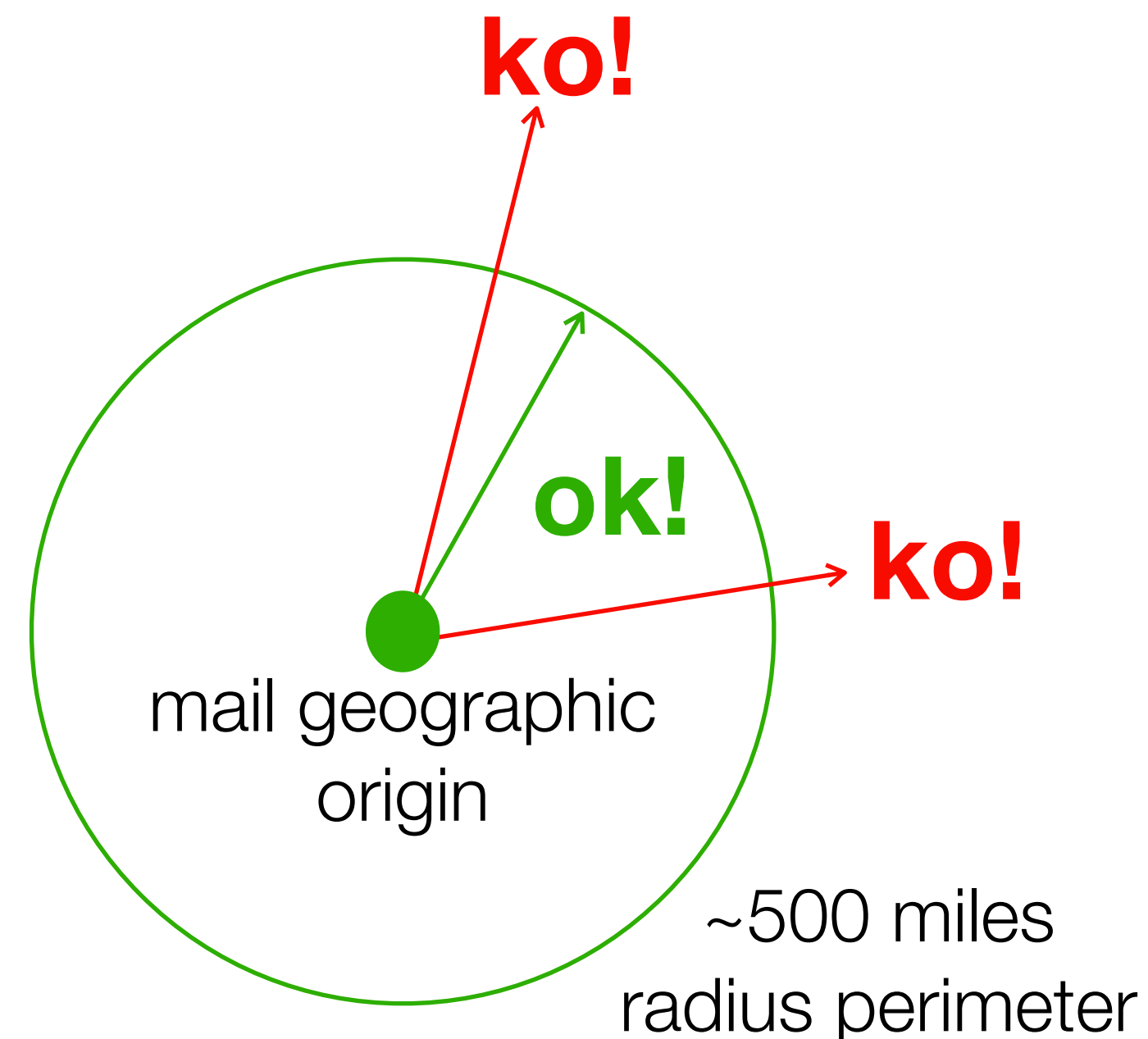
- A user called the email admin complaining that he couldn't send mails further than 500 miles...

**Haha, does not work like that...
wait...**

The 500-mile email

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- The developer, Trey Harris, tried. It was true!
- He sent mails to several recipients located at different geographic positions to compute the distance limit
- It was approximately 500 miles...



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- **So what happened?**
 - According to the users: nothing
 - Just, a consultant came a few days ago to update the server's operating system...

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- **The server?**

- The email system was running on SunOS with the SendMail software
- Sun shipped SendMail 5 by default, but the email admin updated to the most recent version, SendMail 8, and wrote configuration file for SendMail 8

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- **So what really happened?**
 - The upgrade had the side effect to downgrade SendMail 8 to SendMail 5
 - This was not visible, because SendMail 5 was working but ignoring SendMail 8 configuration files and using the default value **0** instead

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- **So what really happened?**
 - The upgrade had the side effect to downgrade SendMail 8 to SendMail 5
 - This was not visible, because SendMail 5 was working but ignoring SendMail 8 configuration files and using the default value **0** instead
- **In particular, for the timeout to connect to the remote SMTP server...**

The 500-mile email

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- **What happened?**
 - Experimental tests showed that, due to a particularity of the campus network, a 0 timeout would abort a connect call in about 3 milliseconds

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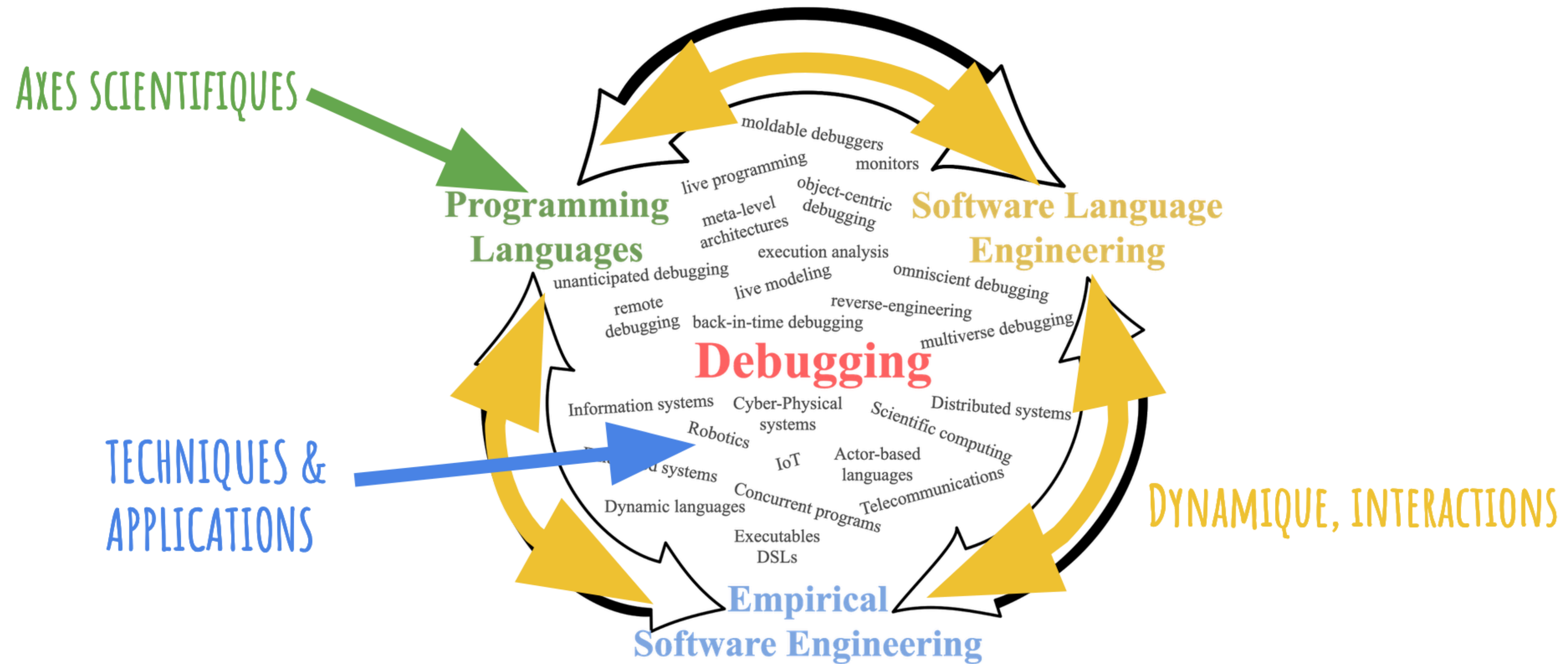
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- **What happened?**
 - Experimental tests showed that, due to a particularity of the campus network, a 0 timeout would abort a connect call in about 3 milliseconds
 - What is the distance that light (or electric current) can travel in 3 milliseconds on wired network?
 - **About 500 miles...**

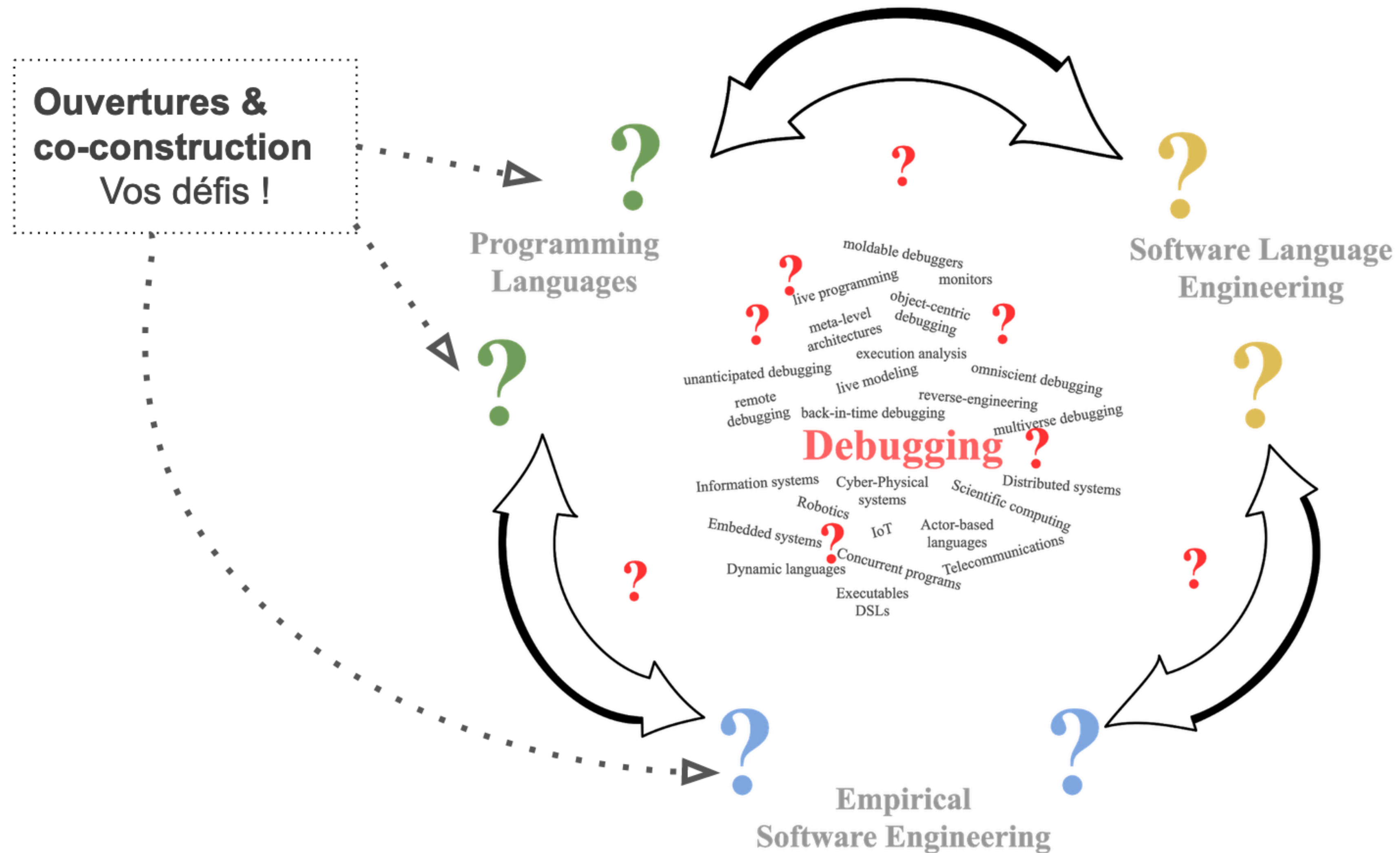
GT Debugging

- Rappel : qu'est-ce que le GT Debugging
- “Bilan” et organisation
- Présentations et table ronde

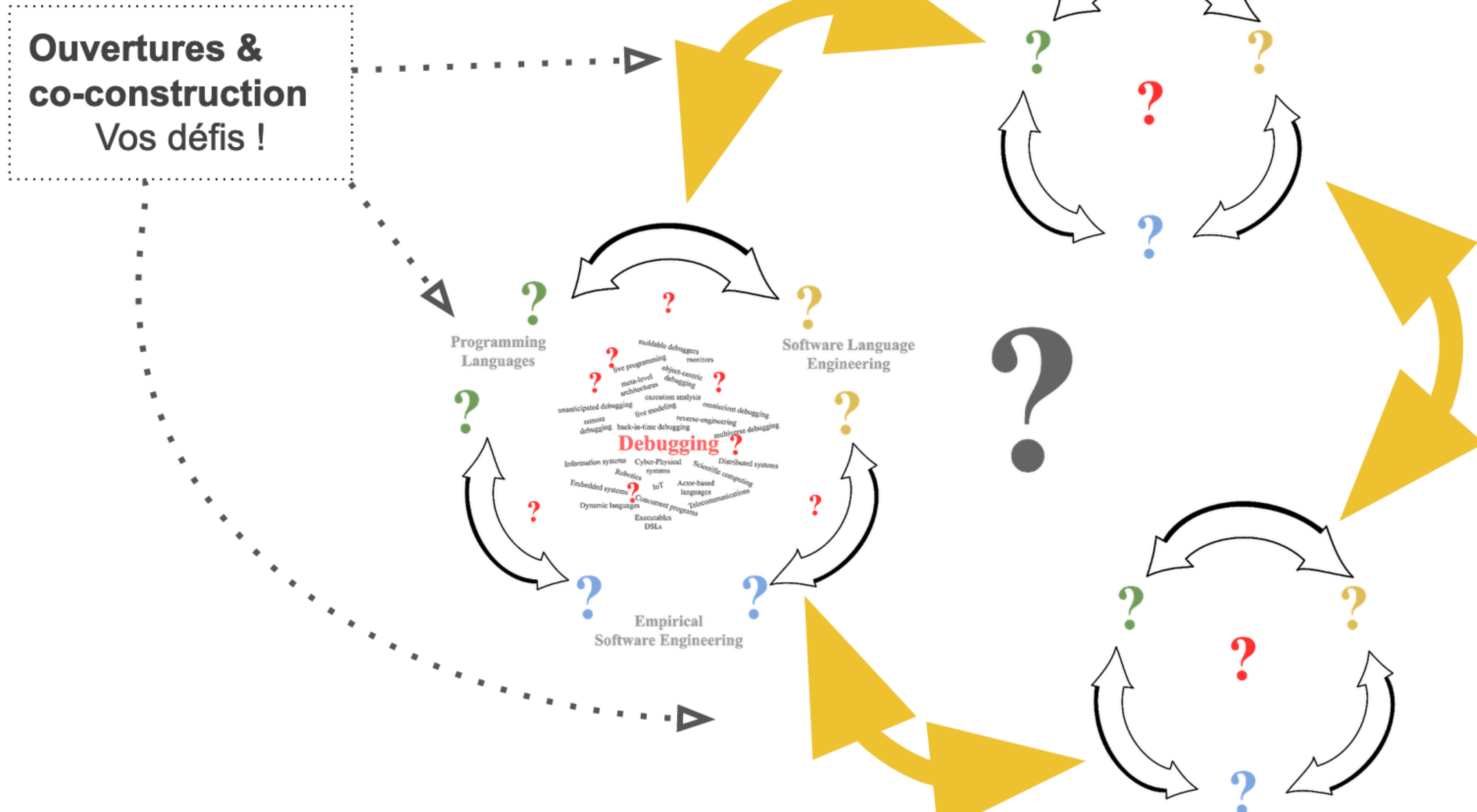
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Bilan et organisation

- **Réunions mensuelles**
 - 45 minutes : présentation scientifique (30 minutes) et discussion (15 minutes)
- **Réunion annuelle**
 - En présentiel, une journée : présentations, workshops, tutoriels...
- **Session “Debugging” à la réunion annuelle du GDR**
 - Bilan de l’année du GT
 - Présentation des meilleurs articles publiés dans l’année par les membres du GT

Bilan et organisation

- **Bilan des réunions mensuelles**
 - Kickoff, 21 mai 2021
 - 18 participants (RmoD, DiverSE, Thales, SOFT, LaBRI, LAAS, LS2N, Verimag, LIG, Shaker)
 - Challenges et questions posées
 - *Comment debugger une application temps-réels, avec des contraintes temporelles fortes et de la concurrence (LAAS) ?*
 - *Quelles sont les abstractions à proposer à un utilisateur de langages non impératifs (e.g. dataflow) pour lui permettre une stratégie de debug pertinente liée à son expertise métier (DiverSE) ?*
 - *J'aimerais bien avoir une discussion sur la notion d'état et du versionning d'état (en présence d'un graphe) dans un omniscient debugger (RMoD?) (+1 DiverSE)*
- **Prochaine réunion début juillet 2021 (date à fixer)**
 - Présentation de Pierre Laborde, Thales :
“Prototypage IHM pour la défense : débogage et correctifs distribués à chaud et sans interruption de système collaboratifs en cours d'exécution”

Help needed...

- **Site web (debugging.inria.fr)**
 - Maintenance
 - Traduction
- **Logistique du groupe**
 - Enregistrement et diffusion des présentations
 - Suggestions...

Présentations et table ronde

Présentations (~1h30)

- **Introduction**, Steven Costiou, Benoît Combemale
- **Monilogging for Executable DSLs**,
Dorian Leroy
- [video] **Sub-method, portable behavioural reflection with Reflectivity: looking back on 10 years of use**,
Steven Costiou, Vincent Aranega, Marcus Denker
<https://programming-journal.org/2020/4/5/>
<https://www.youtube.com/watch?v=bJO4tAilwng>

Table ronde (~30min)