

The Present and Future of The Astrophysical Journal

FPCA II 2010 Cambridge MA



The ApJ in the publishing world

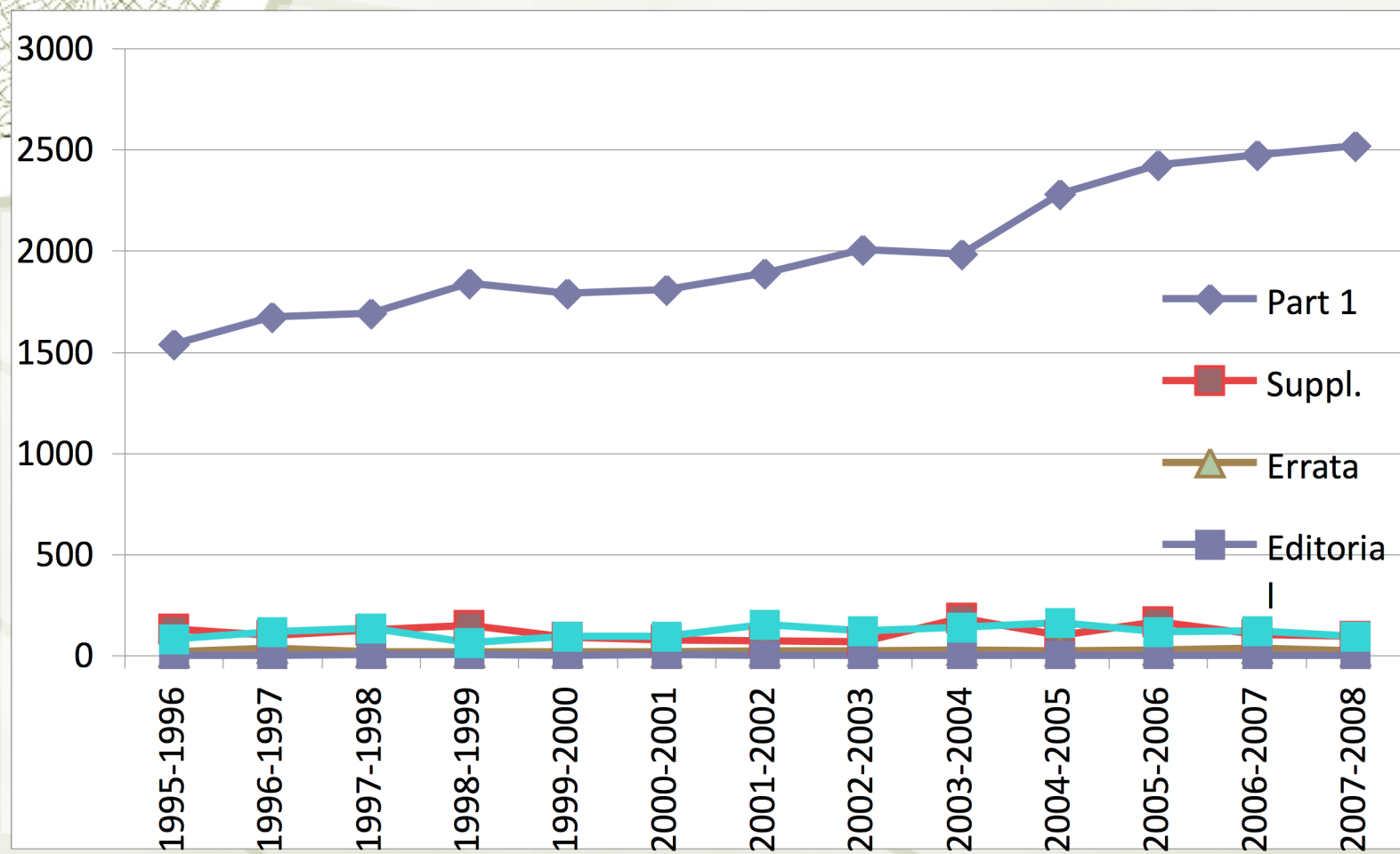
- ★ Purely research journal - no reviews, book reports, public outreach etc.
- ★ A large research journal in a field with few major research journals.
- ★ A society owned, nonprofit, journal
- ★ A US journal which has evolved into an international journal - but with a business model which is shaped by conditions in the US.



Current Status - How has the ApJ changed since the beginning of the internet era?

- ★ The Astrophysical Journal became an online journal more than a decade ago. At this point the online version, which differs in content from the printed version, is the archival version.
- ★ On the other hand, the journal continues to consist of articles of roughly eleven to twelve printed pages in length. The number of articles grows a few percent a year, with growth spurts whose cause is obscure.

Recent historical record






Current Status - ApJ

- ✦ The main journal publishes more than 2200 articles per year, which makes it the largest research journal.
- ✦ The current growth rate is roughly comparable to MNRAS, and larger than other journals.
- ✦ The authors are broadly distributed geographically, with a large fraction of the papers having first authors from outside North America.
- ✦ The impact factor is the largest for purely astronomical research journals.
- ✦ Does this imply an instability? Doubtful - other factors should prevent this.

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Successful Innovations (for journals)

- ★ **Click through on references**
- ★ **Faster publication - roughly two months from acceptance, as measured by web posting. (This has led to some complaints about format.) Most of the delay is waiting for authors to submit revised versions.**
- ★ **Machine readable data tables**



The future? What is a journal good for?

- ✦ An archival record? Maybe. Certainly not a paper copy.
- ✦ Access? No.
- ✦ Validation? The peer review system is a social system which uses unpaid professional labor. It is not easily transferable. Anonymity is a necessary default setting.
- ✦ Copy editing etc. (?) This costs money.
- ✦ Added features e.g. cross-linking, hosting and data curation. Links to a broader community are possible, but not yet a success.

A decorative wireframe sphere is located in the top-left corner of the slide. It is composed of a grid of lines forming a sphere, with a small dot at its center.

Relationship to databases?

- ✦ What counts as a legitimate link? (“Suppose you were hit by a bus tomorrow....”)
- ✦ ArXiv papers?
- ✦ Goal is to avoid ephemera, but what is permanent?

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Demographics and business models

- ✦ The future of The Astrophysical Journal as an international journal - what will this take?
- ✦ Dispersed editorial model is already implemented.
- ✦ Page charges are a significant obstacle for authors in emerging countries.
- ✦ The emergence of new national journals?



Data policies

- ★ The Astrophysical Journal policy is that data should be in the public domain in a timely manner. We will undertake to publish reasonable amounts of data as machine readable tables. We will link to a suitably maintained database.
- ★ This does not imply that data must be published immediately. We try to be sensitive to the issue of data rights. However, holding data in confidence for years after the publication of scientific results is contrary to best scientific practice.



The publishing process

- ★ The traditional model of a single long term full service publisher may well be dead. (This assumes that publishing is not dead.) The new model is a suite of companies offering complementary services either as subcontractors or directly.
- ★ We now have a publisher (IOP) and a peer review software provider (EJ Press). In turn, our publisher subcontracts for various functions.

CAN A NINJA CATCH AN ARROW?
ON THIS EPISODE, WE'LL FIND OUT!



BRAAAAAIIINNS...

ZOMBIE FEYNMAN! YOU GOT A PROBLEM WITH MYTHBUSTERS?

THEY FAIL AT BASIC RIGOR!



"IDEAS ARE TESTED BY EXPERIMENT." THAT IS THE CORE OF SCIENCE. EVERYTHING ELSE IS BOOKKEEPING.



BY TEACHING PEOPLE TO HOLD THEIR BELIEFS UP TO EXPERIMENT, MYTHBUSTERS IS DOING MORE TO DRAG HUMANITY OUT OF THE UNSCIENTIFIC DARKNESS THAN A THOUSAND LESSONS IN RIGOR.



SHOW THEM SOME LOVE.

ANYWAY, BACK TO ZOMBIE STUFF. I HUNGER FOR BRAAAAAIIINNS!

UH, TRY THE PHYSICS LAB NEXT DOOR.

I SAID BRAINS. ALL THEY'VE GOT ARE STRING THEORISTS.



