Dear Dr. Sloane,

I am surprised to say that I have managed to find most of the items you request in your letter, and enclose a copy of each.

Glaisher’s $T_n$, $n=1(1)7$. This is my original work sheet.

Kummer Numbers to $n=20$.

*Report #167 from Maltis Research Centre*

I also enclose one of Glaisher’s $I_n$, $n=1(1)6$. These are not quite integers, but nearly! One could make integers, but rather excessively on page!

I could also turn up the $\frac{\phi(n)}{\pi^2} F_{(n)} F_{(n)}^2$ but have not yet found them. I send what I can. Therefore, before I become immersed in preparations for a visit to Bergen—I leave on April 15—and have to go away three before then! I hope to send them in due course.

I hope you can find many thanks of interest in your round of libraries.

At Brown, the major search was carried out by Fletcher, though I have also seen them.

My suggestion about binary sequences is rather a fall below asked perhaps should be a distinct project. It is rather like the “Brocot Tables” of §1.43 of the FMR Index in that part where the decimal fractions are arranged in order with enough digits to separate...
items, and the fractions given alongside. If we were to give coefficients of sequences $\phi(x) / x^n$, where $m \in \mathbb{N}$ with\n\[ \deg(\phi(x)) < \deg(x^n)^{1/2} \] it would about match a Brocot table for $n = 128$.

To go up to $k = 10$ would give about six entries as Neville's' Farey Series tables $k = n = 1025$ (Roy Soc. Math. Tab. Vol 1), and what would be too big with binary sequence equivalent as well.

If a table to $k = 7$ or 8 would be interesting, I think it's a distinct project. However, it might be useful if it existed, though I am not immediately sure.

It might be horrible to include sequences to $k = 5$, and maybe some shorter ones beyond e.g. $n = 21$, $n = 13$, $n = 59$, 85, 17 (corresponding to $k = 6, 9, 8$). Also Lehmer's number \[ 0110101000101 \ldots \] which he has also converted to decimal. The original form is known to be over 6 million digits. I'll see what the table looks like, and who's there. Not much is published that I know of, however.

In your letter of July 21, you have further queries, but no more proposals about your project at the moment. Nor can I immediately give much further information about the stamp problem for $n = 3$.

I have to sort out exactly what Henriët's solution is – it is
not completely proved. I do not
know exactly what Hofmeister did
though I understand he has proved it.
Some extra results not given by
Lummox (though he obtained them
after Hurwitz died) are included below:

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There is more, but not fully organised.

I hope to write again, but
you have what I've been able to
say up to now.

* I also send you a letter
I've written that depends on
binary sequences. I still
have to send one to Festus MacWilliams
when I get round to it, and to
Berlekamp (if he's not given it
to me). So if you don't need the
why I send, please have it on.

Yours sincerely,

J. C. P. Miller

* Two off points
under separate cover.
Glaisher's T-numbers

\[
T_n = \frac{1}{2} \frac{1}{6} T_{n-1}^2 + \frac{1}{4} \frac{3 \cdot 2}{6} T_{n-2}^3 + \frac{1}{2} \frac{1}{2} \frac{1}{6} T_{n-3}^4 + \frac{1}{4} \frac{3 \cdot 2}{6} T_{n-4}^5 + \ldots + \frac{1}{2} \frac{1}{2} \frac{1}{2} \frac{1}{6} T_{n-k}^k
\]

\[
T_1 = \frac{1}{2}, \quad T_2 = \frac{1}{2} \cdot \frac{1}{6} T_1^2 = \frac{1}{5}
\]

\[
T_3 = 2 \cdot \frac{3}{2} \cdot \frac{1}{6} T_2^2 = \frac{5}{3}
\]

\[
T_4 = 3 \cdot \frac{1}{2} \cdot \frac{3}{2} \cdot \frac{1}{6} T_3^3 = \frac{15}{4}
\]

\[
T_5 = 4 \cdot \frac{4}{2} \cdot \frac{3}{2} \cdot \frac{1}{6} T_4^4 = \frac{15}{5}
\]

\[
T_6 = 5 \cdot \frac{5}{3} \cdot \frac{1}{6} T_5^5 = \frac{125}{10}
\]

\[
T_7 = 6 \cdot \frac{6}{4} \cdot \frac{1}{6} T_6^6 = \frac{625}{16}
\]

\[
T_8 = 7 \cdot \frac{7}{5} \cdot \frac{1}{6} T_7^7 = \frac{50625}{32}
\]

\[
T_9 = 8 \cdot \frac{8}{6} \cdot \frac{1}{6} T_8^8 = \frac{390625}{64}
\]

\[
T_{10} = 9 \cdot \frac{9}{7} \cdot \frac{1}{6} T_9^9 = \frac{3281250}{128}
\]

Check: \( T_n = (-1)^{n+1} \)
Glaisher's I-numbers.

\[ I_n \]

\[ (2n+1)I_n \]

\[ \frac{1}{2} \]

\[ \frac{1}{3} \]

\[ \frac{1}{1} \]

\[ \frac{7}{8} \]

\[ \frac{8}{29/3} \]

\[ \frac{18}{47} \]

\[ \frac{15}{55/61} \]

\[ \frac{69}{214/11} \]

\[ \frac{126}{2 \times 352} \]

\[ \frac{88}{801} \]

\[ \frac{1847}{2031} \]

\[ \frac{556}{7} \]

\[ \frac{69}{7228} \]

\[ \frac{2146}{13} \]

\[ \frac{346}{3935} \]

\[ \frac{2145}{9581} \]

\[ \frac{16}{173172} \]

\[ \frac{6}{66413} \]

\[ \frac{228}{1602} \]

\[ \frac{8}{4093} \]

\[ \frac{22}{22} \]

\[ \frac{86290}{32023} \]

\[ \frac{803}{6978} \]

\[ \frac{721}{6801} \]

\[ \frac{10}{1111} \]

\[ \frac{115}{9088} \]

\[ \frac{86}{32023} \]

\[ \frac{40453}{2593} \]

\[ \frac{94194}{458927} \]

\[ \frac{258227}{258227} \]

\[ \frac{00212}{62397} \]

\[ \frac{05201}{05201} \]

\[ \frac{1602}{1848} \]

\[ \frac{4093}{6978} \]

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\[ \frac{10}{252} \]

\[ \frac{115}{7787} \]

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The numbers are listed in a table format, with each row containing a series of numbers. The table is repeated multiple times.