Erdős on Graphs :
His Legacy of Unsolved Problems

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Fan Chung and Ron Graham

UPDATES and ERRATA

Page x, line 12, "Gelfand" should be "Gelfond".

Page 11, line 25, "for all $S, T \in \mathcal{F}$, we have ..." should be "for all distinct $S, T \in \mathcal{F}$, we have $|S \cap T| \equiv \mu_i (mod p)$ for some i, $1 \leq i \leq s$, and $|S| \equiv \mu_0 (mod \mu_0)$ for all $S \in \mathcal{F}$. Then

$$|F| \leq \binom{n}{s}.$$

Page 13, line 4, " is $c(n \log n)^{5/2}$ due ... " should be " is $c(n/\log n)^{5/2}$ due ... ".

Page 16, line 23, Erdős [37] offered \$25 for the conjecture on Ramsey numbers for subgraphs with bounded average degrees.

Page 18, line 7, " provided n is large" should be "provided k is large".

Page 19, line 13, "The next conjecture[53] " should be "The next conjecture[94] " . Added in the footnotes, " 94 P. Erdős, R. J. Faudree, C. C. Rousseau, and R. H. Schelp, Multipartite graph-tree Ramsey numbers, *Annals N. Y. Acad. Sciences* **576** (1989), 146-154. *Proc. First China-USA International Graph Theory Conf.* "

Page 19, line 17, "$\chi(G) - 1$" should be "$k - 1$".

Page 21, line 6, Erdős [37] offered \$25 for the Ramsey problem on n-cubes.

Page 21, line 10, "The best known upper bound for $r(Q_n)$ is due to Beck[59] who showed that $r(Q_n) \leq c2^{n^2}$" should be "Beck[59] showed that $r(Q_n) \leq c2^{n^2}$. Recently, Graham, Rödl and Ruccinski proved $r(Q_n) < 2^{cn \log n}$". Added in the footnotes, "R. L. Graham, V. Rödl and A. Ruccinski, On graphs with linear Ramsey numbers, preprint."

Page 23, line 12, delete "and any k".

Page 25, line 1, add "Recently, Alon, Ronyai and Szabo showed that $r(\underbrace{K_{3,3}, \ldots, K_{3,3}}_{k}) = (1+o(1))k^3$

in *Norm graphs: variations and applications* 1998 preprint".

Page 39, line 27, "the Turán number $t(n, C_{2k+1}) = \lfloor n^2/4 \rfloor$ for $n > 2k+1$" should be "the Turán number $t(n, C_{2k+1}) = \lfloor n^2/4 \rfloor$ for sufficiently large n ".

Page 41, line 6, "For a finite family F of graphs" should be "For a finite family F of connected graphs".

Page 41, line 11, " $O(t(n, G))$" should be "$\Theta(t(n, G))$".

Page 42, line 2, " For every family F of graphs" should be " For every family F of connected graphs".

Page 42, line 4, "$t(n, \mathcal{F} = O(t(n, B))$" should be "$t(n, \mathcal{F} = \Theta(t(n, B))$" .

Page 43, line 11. Harborth and Nienborg showed that $f_4(6) = 132$ in:

H. Harborth and H. Nienborg, Maximum number of edges in a six-cube without four-cycles. *Bulletin of the ICA*, 12 (1994) 55–60.

For the lower bound for $f_4(n)$, Brass, Harborth and Nienborg prove a lower bound of $(n+\sqrt{n})2^{n-2}$ for n powers of 4, and, in general, a lower bound of $(n + 0.9\sqrt{n})2^{n-2}$).

Added in the footnotes:

H. Harborth and H. Nienborg, On the maximum number of edges in a C_4-free subgraph of Q_n, *Journal of Graph Theory* 19 (1995), 17–23.

Page 48, line 2, "maximum number" should be " minimum number".

Page 49, line 11, "every directed graph on k " should be "every directed graph on $\{1, 2, \ldots, k\}$".

Page 49, line 12, "the graph includes a ... " should be "the graph includes an increasing ... ".

Page 51, line 4, "Problem[77]" should be "Problem[78]".

Page 51, line 5 and line 8, "$\lfloor n^2/4 \rfloor$" should be "$\lfloor n^2/4 \rfloor + 1$".

Page 53, line 15, "and $ck^{1+1/k}$ " should be "$ckn^{1+1/k}$ ".

Page 81, line -6, "Combinatorics" should be "Combinatorica". Page 95, line 8, "S_r" should be "S_t".

Page 113, line 16 and 17, "$(\omega_2 + 2)^3_\omega$" should be "$(\omega_2 + 2)^2_\omega$".