

The changes listed here are mainly from a paper by De la Cruz and Di Prisco:
Weak forms of the axiom of choice and partition principles, Set Theory,
 Di Prisco et al. ed., Kluwer Academic Publishers, Netherlands, 47-70.

In part VI, the bibliography, the following changes should be made.

1. Change De la Cruz/Di Prisco [1996] to [1998a] *Weak choice principles*, Proc. Amer. Math. Soc. **126**, 867-876.
 and make the corresponding changes in the other documents. De la Cruz/Di Prisco [1996] occurs as follows
 In part I, the numerical list of forms, it occurs 7 times.
 In part II, the topical list of forms, it occurs 7 times.
 In part III, the models, it occurs 3 times.
 In part IV, the notes, it occurs 0 times.
 In part V, references for relationships between forms, it occurs 3 times at positions (336,64), (378,132), and (376,377).
2. Add to De la Cruz/Di Prisco [1998b] *Weak forms of the axiom of choice and partition principles*, Set Theory, Di Prisco et al. ed., Kluwer Academic Publishers, Netherlands, 47-70.

In parts I and II, the two lists of forms, make the following changes.

1. Add a comma to form 132 after " $PC(\infty)$ ". The corrected form is:
FORM 132. $PC(\infty, < \aleph_0, \infty)$: Every infinite family of finite sets has an infinite subfamily with a choice function. Blass [1977a] and Kleinberg [1969].
2. Add the following new forms.
FORM 11. A Form of Restricted Choice for Families of Finite Sets: For every infinite set A , A has an infinite subset B such that for every $n \in \omega$, $n > 0$, the set of all n element subsets of B has a choice function. De la Cruz/Di Prisco [1998a], [1998b].
FORM 12. A Form of Restricted Choice for Families of Finite Element Sets: For every infinite set A and every $n \in \omega$, there is an infinite subset B of A such the set of all n element subsets of B has a choice function. De la Cruz/Di Prisco [1998a], [1998b].
FORM 73. $\forall n \in \omega$, $PC(\infty, n, \infty)$: For every $n \in \omega$, if C is an infinite family of n element sets, then C has an infinite subfamily with a choice function. De la Cruz/Di Prisco [1998a], [1998b].

In part II put all of the new forms in the section CHOICE FORMS, IV. Partial Choice

In the table of contents for part III:

1. Replace the entry for $\mathcal{N}1$ with:
 $\mathcal{N}1$: The Basic Fraenkel Model. 176
 (6, 16, 23, 24, 37, 89, 112, 114, 115, 116, 127, 130, 133, 134, 135, 147, 191, 217, 232, 233, 263, 304, 305, 309, 313, 322, 325, 361, 363, 379, and 380 are true, but 15, 53, 64, 69, 76, 126, 128, 131, 146, 177, 200, 239, 267, 278, 292, and 344 are false.)
2. Replace the entry for $\mathcal{N}3$ with:
 3. $\mathcal{N}3$: Mostowski's Linearly Ordered Model. 182
 (6, 16, 23, 24, 37, 60, 91, 128, 130, 164, 165, 191, 305, 309, 313, 317, 325, 361, 363, 368, 369, 379, and 381 are true, but 15, 76, 84,

97, 118, 125, 126, 131, 147, 155, 156, 157, 200, 253, 290, 295, 296, 304, 355, and 376 are false.)

3. Replace the entry for $\mathcal{N}6$ with:

6. $\mathcal{N}6$: Levy's Model I. 185
 (6, 37, 130, 191, 218, 305, 313, 361, and 363 are true, but 154, 164, 171, 308(p), 314, 334, 344, 358, and 379 are false.)

4. Replace the entry for $\mathcal{N}49$ entry with

49. $\mathcal{N}49$: De la Cruz/Di Prisco Model. 217
 (6, 9, 37, 63, 91, 130, 191, 305, 309, 313, 361, and 363 are true, but 47(n), 106, 163, 167, 344, 379, and 380 are false.)

In part III, models, make the following changes.

1. In $\mathcal{N}1$ replace the part after

Therefore, form 328 ($MC(WO, \infty)$) is false because $122 + 328 \rightarrow 40$.
 with:

De la Cruz and Di Prisco have shown that every infinite collection of non-empty well orderable sets has an infinite subfamily with a choice function (380 is true) and that every infinite collection of non-empty sets has an infinite subfamily with a Kinna-Wagner selection function (379 is true). It is shown in Howard/Keremedis/Rubin/Stanley [1997] that form 232 (Every metric space (X, d) has a σ -discrete basis.) is true. Since form 165 ($C(WO, WO)$) is true, (133 implies 165) it follows from note 2(8 and 9) that 16 and 24 are also true.

$\mathcal{N}1 \models$ 6, 16, 17, 23, 24, 31, 37, 63, 89, 91, 112, 114, 115, 116, 127, 130, 133, 134, 135, 147, 191, 217, 232, 233, 263, 273, 304, 305, 309, 313, 322, 325, 361, 363, 368, 369, 379, and 380, but 15, 53, 64, 68, 69, 76, 106, 126, 128, 131, 146, 177, 200, 239, 267, 278, 292, 323, 328, and 344 are false. References include Blass [1977a], Brunner [1981a], [1982a], [1983d], [1984b], [1984f], [1985a], Dawson/Howard [1976], De la Cruz/Di Prisco [1998a], Fraenkel [1922], Felgner/Jech [1973], Felgner [1971a], Jech [1973b], Jech/Sochor [1966a], Halpern [1964], Harper/Rubin [1976], Hickman [1976], Hodges [1974], Howard/Keremedis/Rubin/Stanley [1997], Howard/Rubin [1977], Läuchli [1962], Levy [1958], Pincus [1969], Specker [1957], Stavi [1975], notes 2(8,9), 18, 41, 46, 52, 64, 66, 88, 89, 105, 109, 116, 120(56) and 123.

2. In $\mathcal{N}3$ replace the part after

Since form 165 ($C(WO, WO)$) is true, (60 implies 165) it follows from note 2(8 and 9) that 16 and 24 are also true.

with:

De la Cruz and Di Prisco have shown that every infinite family of non-empty sets has an infinite subset with a Kinna-Wagner selection function (379 is true). They have also pointed out that the atoms have no infinite subset B such that collection of all subsets of B of cardinality greater than 2 has a Kinna-Wagner selection function (376 is false). Ramsey's theorem (325) is true by an argument very similar to the proof that 325 is true in $\mathcal{N}1$ given by Blass in [1977a].

$\mathcal{N}3 \models$ 6, 14, 16, 23, 24, 31, 37, 60, 83, 91, 128, 130, 164, 165, 191, 273, 305, 309, 313, 317, 325, 361, 363, 368, 369, 379, and 381, but 15, 84, 90, 97, 106, 118, 125, 126, 131, 147, 155, 156, 157, 200, 253, 290, 295, 296, 304, 355, and 376 are false. References Mostowski [1939], Blass [1977a], Brunner [1982a], [1983a], [1983c], [1983d], [1984c], [1984f], [1985c], Dawson/Howard [1976], De la Cruz/Di Prisco [1998b], Gonzalez [1995a], Halpern [1964], Howard [1973], Howard/Keremedis/Rubin/Rubin [1997b], Howard/Yorke [1989], Jech [1973b], Krom [1986], Läuchli [1964],

Levy [1958], Pincus [1969], [1997], Sageev [1981], notes 2(8,9), 18 and 120(34 and 45).

3. In $\mathcal{N}6$ replace the part after

but for each $n \in \omega$, $n > 0$, $C(\infty, n)$ (61) is true.

with

(It is also clear that $\{P_n : n \in \omega\}$ has no infinite subset with a Kinna-Wagner selection function so $KW(\aleph_0, < \aleph_0)$ (358) and $PKW(\infty, \infty, \infty)$ are also false.) Levy, also proves the axiom of Multiple Choice (67) is true. However, Bleicher has shown that $(\forall n \in \omega)MC(\infty, \infty, \text{relatively prime to } n)$ (218) is equivalent to $61 + 67$, so 218 is also true. Since 218 implies 333 ($MC(\infty, \infty, \text{odd})$) and Keremedis has shown that $333 + 334(MC(\infty, \infty, \text{even})) \leftrightarrow AC$, it follows that 334 is false. Since 218 is true, and therefore, [218 A] (Existence of Complementary Subspaces) is also true, it follows that 95(F) (Existence of Complementary Subspaces over a Field F) is true.

Shannon proves if $T = \{f : \exists n f \text{ is a choice function on } \{P_0, P_1, \dots, P_n\}\}$ with the partial order $f \leq g$ iff $g \subseteq f$, then T is a denumerable union of finite sets, all antichains are finite, and there is a denumerable family of dense sets for which there in no generic filter (171 is false). See note 47 for definitions. In Howard/Yorke [1987] it is shown that for any prime p , there is a set of finite groups $\{G_y : y \in Y\}$ such that the weak direct product has no maximal p -subgroup (308(p)) is false in $\mathcal{N}6$ for any prime p). Since form 106 (Baire category Theorem for compact Hausdorff spaces) is true (218 implies 106) and 43 (Principle of Dependent Choices) is false (43 implies 171), form 154 (the Tychonoff theorem for countably many T_2 spaces.) must be false. (106 + 154 implies 43. See Brunner [1983c]) Degen has shown that if $\rho_i = \pi_i/P_i$, ρ_i is not defined on $A - P_i$, and $\phi = \bigcup_{i \in \omega} \rho_i$, then ϕ cannot be expressed as the product of two reflections. (ϕ is a reflection if $\phi^2 = \phi$.) Consequently, form 314 (Every permutation on a non-empty set can be expressed as a product of two reflections.) is false.

$\mathcal{N}6 \models 6, 37, 61, 67, 95, 130, 191, 218, 273, 305, 313, 361, \text{ and } 363$, but 10, 154, 164, 171, 308(p), 314, 334, 344, 358, and 379 are false. References Bleicher [1965], Brunner [1984b], Degen [1988], Howard/Yorke [1987], Jech [1973b] (Theorem 7.11 and prob 7.15), Keremedis [1996a], Levy [1962], H. Rubin/J. Rubin [1985], Shannon [1990], notes 18, 35, 95, and 120(2 and 56).

4. In $\mathcal{N}49$ replace the part after:

S is the set of finite supports. De la Cruz and Di Prisco have shown that every infinite set in this model is Dedekind infinite (9 is true) and that $\{A_i : i \in \omega\}$ is a countable family of well orderable sets such that no infinite subfamily has Kinna-Wagner selection function.

with

It follows that 167, 379, and 380 are false. In addition De la Cruz and Di Prisco have shown that for every $n \in \omega$, $n \geq 2$, there is a set of n elements sets in the model with no choice function (47(n)) is false).

$\mathcal{N}49 \models 6, 9, 37, 63, 91, 130, 191, 305, 309, 313, 361, \text{ and } 363$, but 47(n), 106, 163, 167, 344, 379 and 380 are false. References De la Cruz/Di Prisco [1998a], notes 18 and 120(20, 23, 55 and 56).

In part V, references for relationships between forms a long list of changes were made. The corrected TeX version of part V can be downloaded from the “changes” web page from which you accessed this file.