

- <sup>28</sup>S. Coleman and D. J. Gross, "The Price of Asymptotic Freedom," Princeton preprint (1973).
- <sup>29</sup>We should emphasize that the experimental tests of Bjorken scaling are not extremely precise, and that there are alternative explanations of Bjorken scaling.
- <sup>30</sup>D. J. Gross and F. Wilczek, "Asymptotically Free Gauge Theories -II" to be published.
- <sup>31</sup>R. P. Feynman, Acta. Phys. Polon. 26, 697 (1963); L. D. Fadeev and V. N. Popov, Phys. Letters 25B, 29 (1967); V. N. Popov and L. D. Fadeev, Kiev ITP Report 67-36, translation, NAL-THY-57 (1973)
- <sup>32</sup>An amplitude is said to be evaluated at nonexceptional Euclidean momenta if no non-trivial set of momenta vanishes.
- <sup>33</sup>G. t'Hooft and M. Veltman, Nucl. Phys. B44, 189 (1972).
- <sup>34</sup>A. Slavnov, Kiev ITP-71-83E (1971).
- <sup>35</sup>B. W. Lee and J. Zinn-Justin, Phys. Rev. D5, 3121, 3137, 3155 (1972).
- <sup>36</sup>For a complete treatment of the renormalization of non-abelian gauge theories, with or without symmetry breaking, see Reference 35.
- <sup>37</sup>Our derivation of the renormalization group equations follows the approach of S. Coleman in "Dilations," lectures delivered at the 1971 International Summer School of Physics Ettore Majorana (in press).
- <sup>38</sup>We note that in order to draw this conclusion it is not necessary to assume that the perturbation series expansion of  $\beta(g)$  converges. Rather it is sufficient that perturbation theory yield an asymptotic expansion of  $\beta(g)$  about the point  $g=0$ .
- <sup>39</sup>If  $\beta$  has a simple zero at  $g_1$  then  $g_1$  is an IR stable fixed point. In that case if  $g^2 > g_1^2$  then as  $t$  increases so will  $\bar{g}^2$  and for